FIRE ENGINEERING

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The Journal of the Fire Protection Profession Since 1877

AUGUST, 1953

Critical situation that met Philadelphia fire fighters as they arrived at fire on June 22, 1953. Fire has involved vast storages of rubber and tannin in collapsed warehouse (article on Page 634).

A CASE - SHEPPERD - MANN PUBLICATION

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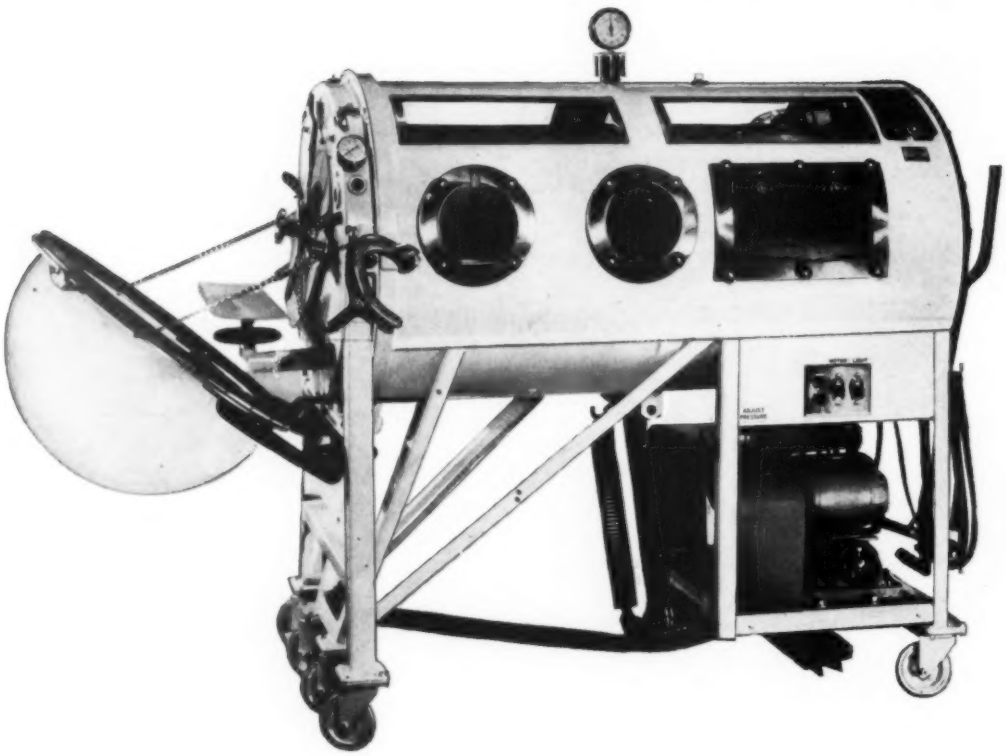
breathing problems

EMERSON "IRON LUNGS"

are recognized from coast to coast as the highest standard of quality



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The city of Sylacauga in Alabama has purchased from the "L. P." Harless Co. of Birmingham this fast, efficient 750 G.P.M. class "A" triple combination pumper. Supplier states "this type fire engine has the fastest pumping operation in America today." Of course, this peak performance is protected by the "Peak of Protection", Federal's famous Beacon Ray light and coaster siren.

This type of fire engine is the "peak of fire protection" for American cities today.

The "peak of protection" from damage or delay to your apparatus is the famous Beacon Ray light on the roof and the dependable Federal coaster siren on the fender.

Remember, the 360° protection of the Beacon Ray, visible "all-around" and the extra loud persistent warning of the Federal coaster siren are vital points in the protection of your entire vehicle investment; Federal quality and dependability assure you that your apparatus has the "Peak of Protection."

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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION *and* FIRE SERVICE

FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

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SHORT CUTS!

ALEXANDER THE GREAT was being shown the Gordian knot. "It can't be untied," they told him, "every man who has tried has failed."

● But Alexander was not discouraged because the rest had flunked. He simply realized that he would have to go at it in a different way. And instead of wasting time with his fingers he drew his sword and slashed it apart.

● It is a tribute to the fire service that there are so many forward-thinking Alexanders who refuse to waste time fussing with old knots—and methods, and cut across to newer, faster, safer, better ways to get results.

● It is a tribute to FIRE ENGINEERING that so many of them—thousands, in fact, look to this Journal for information and guidance on those newer, better ways, and methods and materiel.

● Look this issue over, for example. Check on the ways fire chiefs "cut the Gordian knot"—from the interesting story about Philadelphia's battle with the rubber fire, to the little items in the "Short Cuts & Gadgets", "Watch Desk", "Round Table", and other exclusive features in FIRE ENGINEERING.

● And don't overlook the short cuts—and better-ways-to-do-things to be found in the advertising pages!

The Publishers

FIRE ENGINEERING

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QUALITY SERVICE

FABRIC FIRE HOSE COMPANY

THE ONLY EXCLUSIVE MANUFACTURER OF FIRE HOSE IN AMERICA

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IN CANADA BICKLE-SEAGRAVE, LTD. WOODSTOCK, ONTARIO

JOHN BEAN

adds a new dimension to firefighting

the new combined
true high-pressure fog
and volume fire-fighter

Fast-striking high-pressure fog backed up by slugging volume power now makes it possible for you to fight fires as never before. Bean engineers add this greater dimension to firefighting techniques with their new combination high-pressure fog and volume fire-fighter. It boasts the biggest firefighting wallop ever packed into one unit. Two famous Bean pumps (operating simultaneously or separately) offer you the chance to attack the fire with 2 high-pressure and 4 volume lines. A 500-gallon tank allows you to start pumping seconds after you arrive at the scene. You can get in fast and keep slugging for a "quick kill."

Besides this new approach to firefighting methods, Bean engineers have fashioned a streamlined, sleek-looking truck with a low center of gravity for safe riding at high speeds. 5 full-size compartments furnish more than 45 cubic feet of storage space for supplementary equipment. A rear fill hopper with an easily removable strainer makes filling a simple operation. For fighting grass, prairie, or other running fires, both high-pressure lines can be used while the truck is in motion.

OUR BEST SALES TALKS COME FROM THE CHIEFS WHO USE BEAN FIRE-FIGHTERS

Write these men for their opinion of the unit.

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Fire Chief R. L. Henry—Annandale, Virginia

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TWO-FISTED FIRE-FIGHTERS

Can be mounted on most standard truck chassis

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A PRODUCT OF FOOD MACHINERY AND CHEMICAL CORPORATION

RESEARCH KEEPS **B.F.Goodrich** FIRST IN RUBBER

B. F. Goodrich Fire King proves cheap hose is no bargain

FIREMEN, chiefs *and* commissioners agree that bargain-price hose costs much, much more in the long run. The bursting of a hose under too-high pressures loses vital minutes when every second counts.

But B. F. Goodrich Fire King hose has strength to spare even under top pressures. Actual service tests prove that B. F. Goodrich Fire King, tested to 600 pounds pressure, is *a full 50% stronger* than standard hose, which is tested to only 400 pounds pressure. This extra strength comes from "filler cords" that go around the hose—cords made of a chemically-produced fiber used in B. F. Goodrich hose. And 100% more strength is added to the coupling area by 12 inches of reinforced end protection, found only in B. F. Goodrich hose.

Small wonder, then, that so many fire departments are replacing all their ordinary hose with B. F. Goodrich Fire King. Lighter by 15%, Fire King's flexibility gets it into action faster and makes handling far easier—from unloading the skid at a fire to racking the hose back at the station.

Chief Ray Bachus (and his men) enthusiastically recommended the purchase of Fire King—and the commissioners of Sand Springs, Oklahoma, okayed it despite lower bids on cheaper, bulkier hose. So, before *you* order your next batch of hose, ask a B. F. Goodrich Fire Hose Distributor to show you a sample. You'll find that, though the initial cost of Fire King is slightly higher, it's actually your most economical buy.

The B. F. Goodrich Company
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Without cost or obligation, please

☐ send me more information on B. F. Goodrich fire hose.

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It contains a wonderful collection of the finest badges we have made in our 75 years. It's yours for the asking — every fire company — every equipment dealer should have it. Please write on your company stationery —

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Announcing...

The FOG-KAR by THIELE

High Quality! Low Cost! FOG-KAR

Never before has the fire fighting industry been offered a value such as this!! We feel we have answered the need for small, economical and efficient fire fighting equipment.

Model shown is equipped with a 500 gallon booster tank and this converted into fog is equivalent to 5,000 gallons of water. It can be filled by hydrant bucket or draft. All Thiele "Fog-Kars" are equipped with the reliable F. E. Myers high pressure pump.

Thiele's "Fog-Kars" enable you to DRIVE up to the scene of the fire! Built for endurance as well as performance the "Fog-Kars" move swiftly across the toughest terrain. And because of its functional design, curved streets and narrow alley ways are no longer a problem—the "Fog-Kar" weaves its way through conjested areas quickly and easily. Its compact engineering panel control makes the "Fog-Kar" a "One Man" operation.

ONE MAN CONTROL!

Instrument panel is in weather-proof compartment on driver side. To facilitate a "One Man" operation all controls such as guage, starter button (chasis permitting), vacuum clutch, gas throttle, power take-off and all pump controls have been compactly arranged in a readily accessible area.

This means that one man, upon reaching the scene of the fire, can have the Thiele "Fog-Kar" into operation within seconds. No wasted motion with all the controls at your fingertips.

Yes, test after test has proven the new Thiele "Fog-Kar" to be truly outstanding in every feature.

Check the performance, construction and equipment and you will find that nothing on the market can compete with the "Fog-Kar" in this price range.

For as little as $7,000 complete! Ideal for city, country, farm, factories, estates, resorts, and schools.

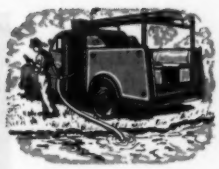
SPECIFICATIONS:

FOG-KAR . . . Complete Packaged Unit
For as Low as $7,000 (F.O.B., JOHNSTOWN, PA.)

- Any standard 1½ ton dual wheel truck chassis CA 84 in. maximum
- 500 Gal. Tank
- 60 Gal. per minute Myers Pump at 800 lb. pressure
- 2 Hose Reels (150'-1" booster hose each reel)
- 2 Myer's High Pressure Fog Guns
- Fire Axe
- 2 Extinguishers (Soda Acid and CO_2)
- 24' extension Ladder and 12' Roof Ladder—(Wood)
- 2—10' Suction Hose Sections 2½" mounted in space saving roof rack
- Flasher light and Siren
- 2 Spot Lights
- 2 Hose Lights
- Customed Painted & Lettered

Additional Equipment Available

Prices and Specifications subject to change without notice.



PROMPT DELIVERY

Don't wait—write today for additional information about the Thiele "Fog-Kar", and other specialized fire equipment.

Customizing since 1901.

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when you've gotta *throw water* and lots of it!

Eastman DELUGE GUNS

HERE is the perfect answer to smaller fire departments that want both a permanent and portable deluge gun. In a matter of seconds the Eastman Deluge Gun can be set up in either fixed or portable position. Turret Head revolves, easily, on roller bearings—large waterways practically eliminate friction loss—These guns are supplied with either two-, three- or four-way siamese — 1½-, 1¾- and 2-inch tips—(removable for fog head). Comes complete with brackets for mounting on truck. You'll get the BIGGEST solid streams you ever saw!

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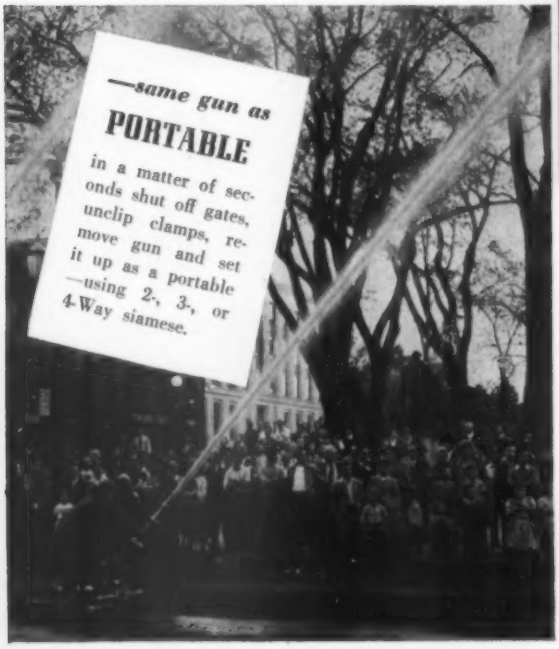
PERMANENT
gun it can be set up in seconds using bracket and clamps which hold it as firmly as a permanent mounted gun. Full rotary action—can be locked in any position.


—same gun as
PORTABLE
in a matter of seconds shut off gates, unclip clamps, remove gun and set it up as a portable —using 2-, 3-, or 4-Way siamese.

Contact your Eastman Dealer, or write

SAMUEL EASTMAN COMPANY
INCORPORATED
CONCORD, NEW HAMPSHIRE

CIVIL DEFENSE PUMPER RECENTLY DELIVERED TO ROYAL OAK, MICHIGAN

"Built by Howe"

HOWE

Howe Fire Apparatus has been built to meet the demands of fire fighters since 1872.

HOWE FIRE APPARATUS is constructed today, under the supervision of the fourth generation of the Howe family, to meet the high standards of workmanship and efficiency characteristic of all Howe fire equipment. Indicative of Howe achievements is the record in 1952 of building a high percentage of all pumpers produced in the United States. Howe's present record of building fire trucks and crash trucks on defense orders is further testimony to the value and prestige of Howe Fire Apparatus.

Howe builds their apparatus on any commercial chassis and their custom-built Howe Defender special fire engine chassis. You can have a choice of several pumps: the Piston Pump, the Centrifugal Pump (1, 2 or 3 stage), the Rotary Pump, to give you pumping capacity of 500, 600, 750, 1000, 1200 or 1500 GPM.

Furthermore, Howe was the first manufacturer to combine a volume pump and a high-pressure fog power take-off pump so widely used now in fire fighting.

There are many other outstanding features which you should know about Howe Apparatus. Have a Howe representative give you full information on the type of equipment you need. **WRITE FOR FREE** literature and a Howe catalog. *Look to Howe first for the latest in fire-fighting apparatus.* Address the Howe Fire Apparatus Co., Dept. FE1, 1402 W. 22nd St., Anderson, Ind.

HOWE

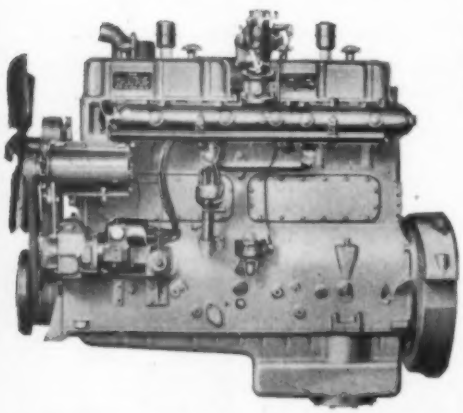
FIRE APPARATUS

Dependable since 1872

ATOMIC ENERGY
installations and production
PROTECTED

by 22 of these HOWE pumpers

powered with WAUKESHA FIRE FIGHTER ENGINES



WAUKESHA 145-GZB High Output FIRE FIGHTER ENGINE—six cylinders, 5⅜-in. bore x 6-in. stroke, 817 cu. in. displ., with counterbalanced and vibration dampened 3½-in. 7-bearing hardened crankshaft; dual ignition; precision extra high capacity bearings; overhead valves with Stellite-faced exhaust valves and seats; removable wet sleeve cylinders. Arranged for full electrical equipment and all modern accessories. Send for Bulletin 1594.

Fire fighting power must be faster, and most reliable at Los Alamos, New Mexico. Here are the Atomic Energy Commission installations. Every safeguard must be used to protect them and their production! Here, too, high altitude complicates the problem; demands plus performance from the power plant! But the *high output* of Waukesha Fire Fighter Engines fully meets both road and pumping needs. For these *Howe Pumpers*... Underwriter rated 750 g.p.m. Class A, with 150-gal. booster tanks, and full complementary equipment... are built by Howe Fire Apparatus Co., Anderson, Indiana, and are powered with Model 145 Waukesha Fire Fighter Engines. At Los Alamos there are ten of these *Howe Pumpers* and the Atomic Energy Commission has twelve more such Waukesha-powered *Howe* units protecting their Atlanta, Georgia installations.

217

WAUKESHA MOTOR COMPANY, WAUKESHA, WIS. • NEW YORK • TULSA • LOS ANGELES

Get Set to Spring into Action with INDIAN FIRE PUMPS

If you've been under the impression that INDIAN FIRE PUMPS were intended for use only on brush and grass fires you're in for a big surprise. Just read this letter from a user who once thought the same thing:

"I once thought INDIAN FIRE PUMPS had use only where a volunteer department was putting out grass fires. Since including a No. 90 galvanized INDIAN on our apparatus, however, I found that the men would not use any other type of extinguisher.

That led me to buy a number of No. 90 solid brass tank INDIAN FIRE PUMPS and place them on all our equipment. We are most enthusiastic about INDIANS and prefer them to any other hand extinguisher for all class A and small oil fires."

George P. Lasher, Fire Chief

We urge you to make the same test. Put in several INDIAN FIRE PUMPS now and try them out. Convince yourself of their many, many applications. And remember—no chemicals—only clear water.

If you would like a reprint of this ad, just send us a post card. We will mail you our new INDIAN FIRE PUMP catalog, too.

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If your town is one of the few that has not owned a MAXIM.....

You owe it to your town and your fellow fire-fighters—
to find out why more and more towns are recognizing the
outstanding engineering and expert craftsmanship—
and lasting dependability of Maxim apparatus—
a full line, pumpers from 750-1500 gpm, squad and
rescue trucks, crash trucks, aerials 65-75-85,
both four wheel and six wheel tiller steer—and the
amazing Maxim-Magirus aerial rescue ladder 100 to 170 feet.

We Invite You— to consult with us on any apparatus need —whether regular or unusual— we'll be glad to help.

MAXIM MOTOR COMPANY

MIDDLEBORO, MASS.

Americas Finest Fire Apparatus

Long range, solid cone of Rockwood WaterFOG snuffs out fire.

"Little Mo" knocks 'em down

He *likes* to go to blazes.

"Little Mo" — a small fire truck that's packed to the hilt with Rockwood fire-fighting equipment — streaks to fires, knocks 'em down and quenches them in seconds. Can be operated by one man, if necessary!

In the test above, fuel in a pit under the tank cars was set on fire — and more fuel poured on top of the cars from pipes. This, too, was ignited and the blaze given a minute's start. In rushed "Little Mo" — and out went the fire in 45 seconds, choked off by Rockwood WaterFOG from Rockwood's Remote Manual Control Turret. What's more, 10 inches of water still remained in "Little Mo's" 200-gallon booster tank, after the fire was out.

It's loaded! "Little Mo's" equipment includes: 4 stage centrifugal pump with electric primer, 200-gallon booster tank, Rockwood Dual Suction Proportioning System for FOAM and "Wet", Rockwood Remote Manual Control Turret controlled from within cab, Rockwood Ground Sweep Nozzles, Rockwood Remote Control Ball Valves, 2 Hannay reels with 200 feet of high pressure hose with new Rockwood High Pressure Handline Nozzle on each reel.

Thanks to Rockwood portable fire-fighting equipment, even a small truck like "Little Mo" can battle fires with powerful efficiency. The Turret Nozzle, alone, discharges solid water stream, WaterFOG, FogFOAM, solid FOAM, "Wet" solid water, and "Wet" WaterFOG! Rockwood engineers water to cut fire losses.

Leading manufacturers of fire trucks will install Rockwood Fire Fighting Products at your request.

ROCKWOOD SPRINKLER COMPANY

ROCKWOOD *Engineers Water . . . to Cut Fire Losses*

SEND FOR THIS INFORMATIVE BOOKLET

ROCKWOOD SPRINKLER COMPANY
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Please send me your illustrated booklet on Rockwood fire-fighting products.

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Street.....
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Handclasp of a friend-in-need

There's confidence in the very "feel" of the world famous C-O-TWO Squeez-Grip Carbon Dioxide Type Fire Extinguishers. The quick-acting "Squeez-Grip" fits your hand naturally like a handclasp... hangs right... carries right... works right. You're in complete command of the situation instantly... no fumbling... no fatigue.

From the non-conducting, shatterproof discharge horn to the high strength, durably finished cylinder, you get top quality construction that results in a lifetime of satisfactory service. Because of the very few working parts and corrosion resistant materials throughout, the total cost to you over the years is less than other initially lower priced makes... fire after fire, recharge after recharge, without trouble.

It's not hard to see, when you fully compare and try, why C-O-TWO Squeez-Grip Carbon Dioxide Type Fire Extinguishers are your best buy for killing flammable liquid and electrical fires, as well as some surface fires involving ordinary combustible materials. Sizes range all the way from 2½ to 100 pounds capacity... all fully approved by the Underwriters' Laboratories, Inc., Factory Mutual Laboratories, Armed Forces and Government Bureaus.

With C-O-TWO Squeez-Grip Carbon Dioxide Type Fire Extinguishers the penetrating carbon dioxide is a clean, dry, non-damaging, non-conducting, inert gas... smothers fire instantly, leaves no after fire mess... harmless to equipment, materials and finishes... even food is still perfectly edible.

Act now for complete free information on these first-rate, sure-acting fire extinguishers. Remember fire doesn't wait ...get the facts today!

C-O-TWO

MANUFACTURERS OF APPROVED FIRE PROTECTION EQUIPMENT

Squeez-Grip Carbon Dioxide Type Fire Extinguishers
Dry Chemical Type Fire Extinguishers
Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems
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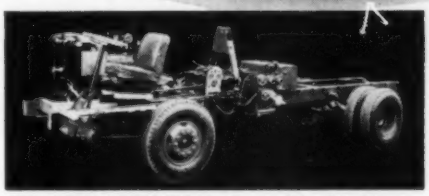
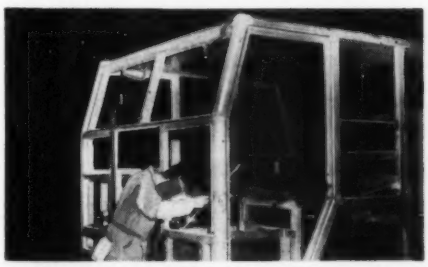
WARD LaFRANCE BUILDS...



CHASSIS ASSEMBLY of new Ward LaFrance Pumper is shown above. Pumper was completely designed and built at Ward LaFrance.



SKILLED WORKER welds aluminum frame of Air Force Pumper.

AIR FORCE PUMPER features Aluminum body and pump compartments. Cab is insulated for field application of Low Temp. Kits.

Aluminum Pumper for U.S. Air Force

Now—from Ward LaFrance—comes this latest development in fire apparatus: a 750 G.P.M. Aluminum Pumper. This new pumper was completely designed and built by Ward LaFrance for U.S. Air Force use. Equipped for foam operation, it has an insulated cab and 203 H.P. engine—wt. 23,400 lbs. complete with equipment and crew.

LET WARD LA FRANCE HELP YOU Bring your fire-fighting forces up-to-date with modern Ward LaFrance apparatus. Call in a Ward LaFrance representative—he'll help you select equipment that suits your community's needs.

WARD LaFRANCE

Fire Apparatus Manufacturers for Over 30 Years

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Tel. CYpress 2-3300

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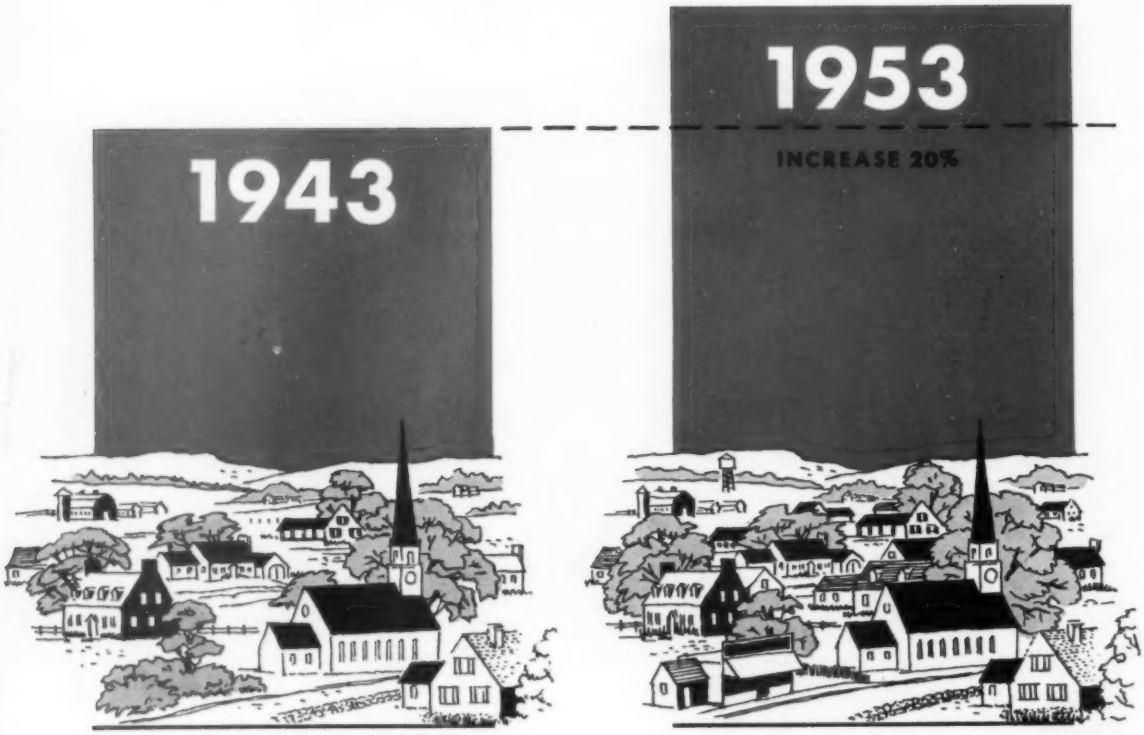
This is YOUR Community



During the past 10 to 15 years, population has increased and replacement values of existing properties have skyrocketed. You know the story, yet how much time has been spent to see that fire defenses have kept pace with community growth in other directions?

Check these points for a quick analysis of the adequacy of your 1953 fire defense system —

✔ Your population has increased __% in the past 10 years.

✔ Your number of buildings has increased __%.

✔ Values of risk have increased __%.

✔ Your fire alarm box system increased __%.

If your answers don't seem to "fit together," it's time to survey your community, set up plans for a realistic 1953–1963 fire alarm box system. Gamewell can make such a survey for you, and it will cost you nothing unless and until you buy materials or services from us.

Write us about a survey of your needs for the present and the future.

THE GAMEWELL COMPANY
NEWTON UPPER FALLS 64, MASSACHUSETTS
In Canada: Northern Electric Co., Ltd., Belleville, Ont.

FIRE ENGINEERING

AUGUST, 1953 VOL. 106, NO. 8

With the Editor

Planning and Preparedness

It's an old, and perhaps trite, saying that no two fires are alike. Most fire chiefs will agree with that axiom, particularly those who are called upon to battle blazes that are the by-product of this hectic age in which we live and labor.

What prompts this observation is the predicament in which the Philadelphia Fire Department found itself one day last June, when it was confronted by simultaneous multiple-alarm fires, one of which involved thousands of tons of rubber.

How the Department met this situation is graphically told in this issue of FIRE ENGINEERING. What isn't told is the lesson this near-catastrophe holds for the fire service.

The lesson can be summed up in these words: preparedness and through pre-planning.

It is safe to say that there is hardly an American city that has not been faced with a threatened, or real, conflagration which has taxed all its fire protection resources. There is scarcely a fire officer who has not laid awake nights trying to figure out just what he would do to meet the challenge imposed by a situation such as Philadelphia fire fighters encountered, or other large scale disasters such as tornadoes, floods, railroad wrecks, building collapse and the like, for which no set operational plan and strategy had been laid down for guidance of his fire forces.

Further accentuating the headaches of these officials is the darkening shadow of enemy atomic attack on our municipalities. How can the fire department cope with these extreme problems of fire defense and attack when the problems themselves are so incomprehensible? How can a fire department hope to face up to its obligation to provide protection against these actual and potential extreme catastrophes, when its protection facilities are presently barely able to meet *normal* emergencies?

And yet from whatever angle you view these emergencies, whether man-made, such as fire, building collapse and train wreck, or "acts of god," such as tornado, flood or earthquake, the first municipal agency called upon, the first to respond with equipment and trained men to immediately get to work is the fire service.

Those of the fire service may know just how tenuous that response may be, because of lack of manpower or of the special equipment needed, but the public doesn't know; they believe implicitly that this response will be immediate and that all will be well because *"the fire department is on the job."*

Nobody wants to betray their faith in the fire service, but there comes a time in every fire force when the public as well as these responsible for city government must face the fact that the *burdens* placed upon the municipal fire forces are growing heaviest, whereas the *supports* for those services are growing *weaker*.

Few fire departments have made such rapid improvement in such a short time as the Philadelphia Bureau of Fire. But with all its new and modernized apparatus and equipment, its outstanding radio installation, its competent auxiliary fire force—and its splendid departmental personnel—the 30 hours beginning at 1:18 A.M., June 22, brought a crisis comparable in a small way to what might be expected of an enemy atomic attack.

Perhaps it is too much to hope that with this lesson before us civic officials responsible for fire department upkeep and improvement will equip their forces with *ample* stocks of foam chemicals, wetting agents, heavy duty appliances and fittings, hose and respiratory protective apparatus, not to speak of first line fire control apparatus. We doubt if that day will ever dawn. But they can and should at least prepare for disaster on paper. They should know where the reserves of extinguishing agents, of men and equipment may be had expeditiously; they should prepare and maintain inventories of all facilities that might be needed. They should, if they do not already have it, develop a workable mutual aid disaster plan, and give it more than paper service.

There is no excuse for not *planning*, and *preparing* at least *on paper* for eventualities!

Fred Shepard

Philadelphia's Emergency Plan Functions in 30-Hour Ordeal

Largest of Four Simultaneous Fires Brought Under Control with Streams Charged with Wetting Agent

A SPECIAL REPORT*

Editor's Note—This special report deals with the operations of the Philadelphia Bureau of Fire over a period of some 30 hours beginning at 2:19 EST, Monday, June 22, 1953.

The report is primarily concerned with the procedures employed in controlling and completing final extinguishment of a major fire involving heavy stocks of crude rubber and tannin in a collapsed warehouse, during which nearly every modern extinguishing agent was tried, including wet water. Although not the first time these agents were used in the effort to control a rubber fire, it is believed this is the first time all were tried on such a large scale; certainly this is the first time a wetting agent was ever employed in volume in the form of straight streams after all conventional means of fire control had failed to bring about complete extinguishment.

The report, of necessity limited to the major factors of the 30-hour ordeal, which incidentally introduced a number of other 'firsts' in the history of the Fire Bureau, can well be studied by municipal and fire officials as evidence of the fact that no city fire department no matter how large or well equipped and trained, is self-sufficient in all respects and resources to meet every kind of major emergency, particularly where it may involve simultaneous multiple alarm fires necessitating special extinguishing media in large quantities.

The editors are indebted to Deputy Fire Commissioner and Chief of Department, George Hink, who directed operations during the period covered in this report, and to Fire Commissioner Frank L. McNamee and Deputy Fire Commissioner Paul B. Hartenstein, both of whom were present during operations. Special appreciation is extended Lieutenant R. J. Kennedy, official photographer of the Bureau, for the excellent photographic illustrations and his assistance in the preparation of source data.

IN A foreword to this special report, George Hink, Deputy Commissioner and Chief of Department, Philadelphia Fire Department, succinctly summed up the unprecedented events which have not been equalled in any other 30-hour period of the department's history.

On Monday, June 22, 1953, he said, Fire Commissioner Frank L. McNamee was making a noonday full-dress report on Philadelphia's recent fire record before a meeting of the Chamber of Commerce. In the eleven weeks prior to his report, he could say the city had experienced 147 less fires of all kinds and 11 less multiple alarms than for the same period a year ago.

But before the Commissioner's talk was over, the department had received a local (still) alarm and box alarm [372] for a fire at 9th and Jefferson streets, and before the Chamber's applause for the excellent eleven-week record had died down, seven more alarms had brought 38 companies to the scene; the general emergency plan for the city, previously untried in practice, had been placed in operation. Within the next 12 hours the department had responded to the 7-alarmer, to two 2-alarm fires; had ordered 2800 of its 3000 officers and men to duty; had likewise called upon 275 of the Fire Force Reserve; had re-deployed the city's fire forces so that, making use of all regular and reserve equipment, only eight of the city's 118 fire stations were left unoccupied for any length of time. In addition, preparations were made for the evacuation of almost 600 families from the immediate vicinity of the major fire; reserves of police were on duty; and the fire department had drawn upon the supplies of industrial and governmental resources in and outside the city, while employing units of the American Red Cross, Civil Defense and the City's welfare, medical and other agencies. And before another day rolled around, the department, with a heavy complement of its force concentrated at the rubber warehouse fire, had handled another three-alarm downtown fire as well as several normal "all-hands" blazes, and other calls for its services. And by 12:30 P.M., Wednesday, the 24th, the smoldering, stubborn major fire had finally been killed by liberal applications of wet water, applied by means of the departments "SS-100" special unit, which was taken out of wraps in the shops for this, its first ordeal by battle.

View of Philadelphia rubber fire area and exposures. Burning collapsed rubber warehouse and bakery warehouse, threatened rubber and furniture warehouses along North 9th Street, which run under electrified railroad (foreground).

Collapse Sets the Stage

The overture to this 30-hour drama began when the Federal Government through the Emergency Procurement Department of General Services Administration leased space in a group of seven buildings and began stockpiling vast quantities of critical materials, including crude rubber and tannin, therein. The official investigation, started even before the fire was out, will in time determine the cause for the col-

*Chief and Commissioner George E. Hink will tell the first-hand story of Philadelphia's dramatic 30-hour ordeal, and go into details of the use of wet water on the rubber blaze, at the forthcoming Conference of the International Association of Fire Chiefs, in Toronto, Sept. 15-18 next.

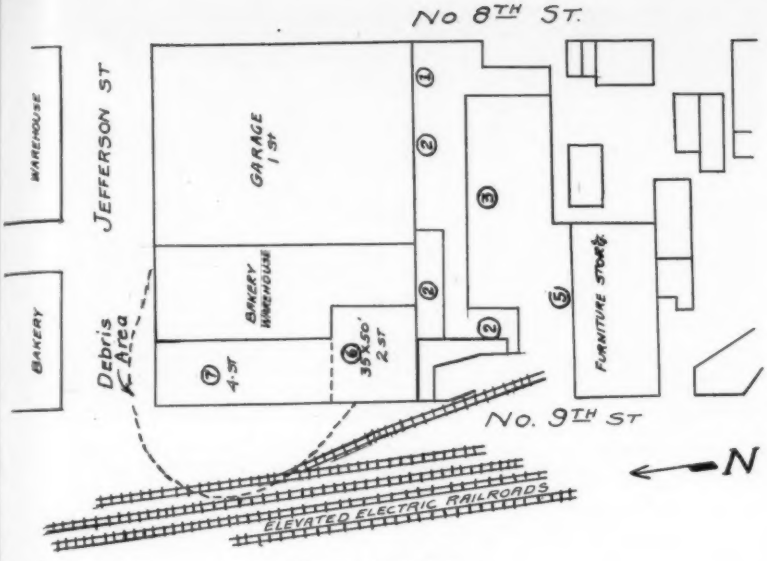


Diagram of Fire Area.

lapse of Building 7 of this group and the ensuing fire. Preliminary inquiry indicates the collapse was due to overloading of the floors of the 4-story brick-joist structure, into which some 4,000 tons of crude rubber in "biscuits," and 2,000 tons of tannin, in bag containers, were jammed. There is conclusive evidence that, contrary to safe storage measures advocated by the National Board of Fire Underwriters and National Fire Protection Association, certain occupancies in the warehouse group were jammed with such critical stocks, which in some instances, reached so high that sprinkler heads had to be protected with wire guards, and structural columns and beams were reinforced with braces to accommodate the extra weight (rubber in some cases was packed in aisle spaces).

Whatever the cause, shortly before 2:19 P.M. DST Monday, June 22, Buildings No. 7 of a group of warehouses along N. 9th street collapsed into a shapeless heap. The office manager of the Alba Warehousing Co., tenants of the occupancies, the only one in the building at the time, reported he heard a heavy rumble and the building began to shake. He barely had time to grab a file of warehouse receipts and run to the street when units of the complex structures of various heights and sizes caved in, with an earth-shaking rumble.

Origin of the collapse was undoubtedly the 4-story Building 7, which took with it most of Building 6, a 2-story structure. The larger warehouse fronted 100 ft. on 9th street by 37 ft. on Jefferson. It was tied into Building No. 6 to its south, which had about 40 ft. frontage on 9th and was 50 ft. in depth.

East of these structures and facing Jefferson street was a 1 and 2-story bakery warehouse, about 140 ft. x 50 ft., tapering to 75 ft. This structure, together with Building 6, abutted Buildings 1 to 5, to the south, varying in height from one to five stores, occupying an area of nearly 200 ft. x 165 ft. Building No. 5, most modern of the group of concrete and brick construction, located to the extreme south, was also loaded with rubber and tannin. Unlike the other buildings, it had no interior sprinkler system, but it did have outside sprinklers to protect it against exposure fires. It had unprotected windows facing the fire area and its sprinkler system was reported tied in with the system of the collapsed structure (complete details of this sprinkler protection are lacking at this writing) but it is reported that Building No. 5's system was made inoperative by the crash, which wrecked the sprinkler systems in No. 7.

Still further south of the warehouse group above described is a large brick joist warehouse about 100 ft. x 50 ft. having metal shutters. Beyond this and partially surrounding it, are coal pockets, yards and various other occupancies.

Other exposures included the large 1-story Baldwin Foundry Co.'s garage and warehouse, measuring about 125 ft. on Jefferson and 180 ft. on N. 8th street, lying just east of the bakery warehouse. This formed the corner between Buildings 1 to 5 to its south and 6 and 7, together with the bakery warehouse on its west, which took the shape of an "L.".

Across Jefferson street from the collapsed Building 7 is the plant of the New Standard Baking Company, which owned the bakery storage warehouse, adjoining Building 7. Across Jefferson street from the laundry garage and facing 8th street, is the B & M warehouse and apartments. This warehouse contained $150,000 worth of household appliances. Along No. 8th street are apartments and dwellings. A three-story structure at 1427 8th, some distance from the fire, was ignited by flying embers. None of the other exposures mentioned, however, took fire.

Important, as bearing upon the fire control operations, is the four-track electified main line system of the Reading Railroad. Its power lines and transformers parallelled its tracks along N. 9th street to the west of the burning structures. One of its switch towers was within the "collapse area" near 9th and Jefferson. This was saved. Traffic on the entire line was shut down for about four hours until lines could be relocated under the tracks. A spur of this railroad was used to handle shipments in and out of the warehouses.

17 Alarms Within 7 Minutes

For the fire department, the curtain rose on the many-act drama when a woman excitedly telephoned the Alarm Bureau at 2:18 (1:18 EST) that a

Laddermen go into action corner 9th and Jefferson. Compare this photo with cover illustration taken from the same spot, but a few minutes earlier. Note how fire has extended; power pole burning; exposures threatened.

building had collapsed at 9th and Jefferson. A local alarm response of Engine 29, Ladder 7, Rescue 1, and the chief of the 6th battalion rolled immediately. The collapse was confirmed when, within seconds, an ADT sprinkler alarm was received, and by a box alarm from Box 372 at 2:19 P.M. (9th and Jefferson).

The speed with which the department got on the ground, and sized up the situation, is indicated by the fact that the Fire Alarm Bureau clocked the second alarm at 1:20 P.M., the third alarm, which was shot in by Chief Hink at 1:25 P.M., followed by the fourth, fifth, sixth and seventh alarms at 1:26, 1:30, 1:31 and 1:36 P.M.

The first information reported to fire fighters was that a four-story warehouse containing stores of rubber had completely collapsed, and that from 12 to 20 people were trapped in the ruins. Witnesses also reported a tractor-trailer and two-man crew were trapped at the truck entrance, but the motorman of a trolley halted at the Reading underpass when the cave-in occurred, said the truck and occupants drove away. He and other witnesses agreed that, within a few minutes following the collapse, the entire mound of debris was a mass of flames. This is also confirmed by the fact that the first-arriving units found the wreckage almost fully involved, as pictured on the cover of this issue. By the time the first hose line was stretched and charged, the fire had involved what was left of Building No. 6 and was threatening structures to the south on 9th. The bakery warehouse facing Jefferson also was involved and the stage was set for a conflagration.

The center of the fire was in the piled up wreckage of the four-story brick warehouse No. 7, with its floor framing of heavy timbers, wood flooring, and slag covered roof. In its collapsed state, as shown in the accompanying illustrations, it burned initially in layers, with crude rubber and chemical blazing in each layer, giving off volcanic-like clouds of black smoke which blanketed the neighborhood to leeward. At the same time, the heat of this huge bonfire made it almost impossible for fire fighters to come to grips with the blaze. Even protected by heavy streams, which were rapidly brought into action, they were compelled to operate at some distance, in places.

Philadelphia firemen take shower of fog-foam. Although foam and fog-foam could not reach and control buried fire in collapsed rubber warehouse at 9th and Jefferson, they helped hold surface fires in debris and on flowing rubber.

The juxtaposition of the elevated, electrified main line Reading Railroad along 9th street, further complicated the problem of fire control. For close to one hour the service had to be cut completely off while water lines were manhandled across the right-of-way. Later, as rapidly as possible the lines were shifted under the tracks and service restored. During the entire period, however, firemen worked under threat of high tension lines which fed the trolley lines and railroad in the area.

A still further handicap was the destruction of the sprinkler system in the involved structures caused by the initial collapse and the failure of the outside sprinklers to protect the otherwise unprotected windows of the five-story warehouse to the south, also due to the rupture of the system at the time of collapse. Buildings 1 to 5 and the large garage on the east constituted the most serious exposure threats and strenuous efforts were made to prevent the fire from involving them.

Before the forces on the multiple alarms were on the fire ground, fire, which sent flames 200 feet into the air, had involved the warehouses adjoining on the east and immediately to the south greatly extending the fire front.

Radio, which proved its indispensability in the emergency, was employed to direct responding units coming in on the fifth, sixth and seventh alarms, to approach from the south by way of 8th and 9th streets. Special instructions also were sent out to pipe line companies (high pressure or turret wagons, to many of our readers), to stretch high pressure hose lines from Girard avenue to provide both high and low pressure service. The fire was outside the normal high pressure area.

Deck pipes, which delivered large streams, were brought into action on 9th and Jefferson streets. Heavy streams also were operated from hand lines on the elevated railroad. In the effort to prevent the spread of fire throughout Building No. 6, monitor and hand lines were operated onto first and second floors and roof. Three companies were given the task of preventing the threatening blaze from engulfing Building No. 2. An engine company and two squads, all equipped with demand type air masks working for several hours in the smother of smoke and heat under direction of ADC Lillburne and Kline, managed to hold the line at this point. At this and other critical points down wind, masks paid their freight—making it possible for fire fighters to hold positions they otherwise would have been compelled to yield. In order to provide for the large numbers of breathing apparatus used during the struggle, a battery of large supply tanks of air was

Hand lines getting into operation on Jefferson. Crews east of 9th Street brave intense heat to protect exposures. Note crushed motor cars in wreckage. Burning bakery warehouse at left of picture.

set up in the lee of the railroad and as fast as the pack-supply tanks ran low, they were replaced and re-charged.

It was not long before the concentration of heavy streams began to have noticeable effect on the fire, except where it fed upon rubber and chemicals and, before nightfall, Chief Hink and the Commissioners had reason to believe the blaze controlled. Complete extinguishment, however, was to prove another problem.

General Emergency Plan Activated

By the time the fourth alarm was sounded, at 2:26 P.M., it was apparent to the chief officers that the department had a job on its hands that would tax the normal strength to the very limit (without having to cope with the extra alarm fires that were to ensue) and after consulting with Commissioner McNamee Chief Hink ordered activation of the department's General Emergency Plan. This plan heretofore had been just that—a plan, on paper only, and had not before been placed into practice. It originated February 17, 1953, and was designed to (a) establish adequate reserves to cover the city when serious emergencies necessitated large-scale movement of fire forces out of their own areas; (b) to provide for recall of off-duty firemen to man the reserves set up by the utilization of spare apparatus, and by converting single two-piece companies into double companies.

Activation of the Emergency Plan or Recall System, is largely in the hands of the department's Fire Alarm Bureau which also, as in other cities, has the responsibility of dispatching all fire apparatus, re-locating the reserves, as well as bringing in the reinforcements of men and materiel.

Battalion Chief Ethan A. Watson, who with other officers of the department worked out the details of the Emergency Plan, was assigned by Chief Hink to report, with a "recall committee" to Radio Car 500 and the Fire Dispatcher's Room and Fire Headquarters, where are kept the records of all off-duty personnel. Within thirty minutes from the sounding of the seventh alarm, the recall system was in actual being, and companies were "returning to service (second units of two-piece companies being placed back in quarters to cover unprotected areas.) In approximately 45 minutes after the seventh alarm, Chief Hink had released empty combination cars from the fire ground to report back, be re-loaded with hose, and manned by the on-coming off-shift personnel. In addition, manpower pools were set up at strategic locations, from which personnel could be drawn as needed.

A further step was the activation of the Fire Department Civil Defense Reserve, some 250 of which were actually employed during the 30-hour period of operations. These trained auxiliary firemen acquitted themselves well. Soon after the striking of the second alarm, the big $30,000 civil defense emergency communications truck sped to the fire scene. Quickly it hooked-in Chief Hink's walkie-talkie radio to the city's main two-way fire communications system, via a public address system, to the entire fire ground. This communications tie-in proved a great asset in the command strategy employed on the fire ground, and to direct the movements of fire forces in meeting the emergencies that developed as the drama unfolded.

The value of modern radio in multiplying the effectiveness of fire forces was exemplified when a fire broke out at Broad and Poplar streets, while the major blaze at 9th and Jefferson was at its peak. To quote the Philadelphia Inquirer (June 23, 1953): "the already busy two-way short wave radio system proved its worth as one of the city's major civil defense investments."

This simultaneous fire erupted suddenly in a three-story brick and joist building occupied by the Globe Fabricated Products, Inc., salesroom and warehouse, at 911-913 N. Broad street. The blaze started in the spray room on the second floor rear of the building where auto jacks were painted. It caught between 15 and 20 employes on the second and third floors, preventing their reaching the exits. The employes ran to windows fronting Broad street, leaning far out to escape the flames and smoke that enveloped the rear of the structure, and looked for help.

Fortunately, an unidentified TV service man, driving a repair truck happened along at this juncture. He sighted the men and sensed their plight. He shouted to Policeman Max Kolman, directing traffic at Broad and Poplar, to turn in an alarm, and he then drove his truck onto the sidewalk in front of the building, where he and Kolman raised two of the light ladders. The unidentified rescuer then raised an extension ladder to the third floor to bring down two trapped workers. Another was about to jump from a sign over the second story where he had climbed to dodge the flames, when he was rescued. An extension ladder obtained from a nearby auto supply store also was pressed into service to help remove the balance of the employes, as flames burst through the Broad street side with a roar and heavy smoke mounted skyward.

The first alarm for this fire, (Box 744), was received by the Fire Alarm Bureau at 3:23 EST, and brought two engines, two ladder companies an a battalion chief. At 3:42 P.M. a second alarm was sounded and at 3:51 P.M. a telephone call for additional equipment was made by the battalion chief in charge.

Before this fire was controlled, it brought into action eight engine, four ladder, two pipe line, one rescue and other companies, including some units drawn from the major operation at 9th and Jefferson. Four hours and 23 minutes work was required on this job before the burned debris was removed to the street, completely overhauled and wet down.

Off-Duty Response Gratifying

By 6:00 P.M. this same day, all but 200 of the city's regular 3,000 total fire force were on duty. Scores of fire fighters had not waited for the recall but had hurried to the fires, or to fire stations. According to Chief Hink, the response of officers and men was exemplary. Without exception, and far more important, without confusion or single mishap, he said, every man save those on sick lists or out of the city vacationing was at his station within an hour from the call. It was largely due to the Mobilization Plan that the Broad and Barrish, and other simultaneous fires were so ably handled, and critical hazards such as the Piers of Richmond, the Frankford and Schuykill Arsenals, the Naval Depots, and the petroleum industries in southwest Philadelphia were given full protection. According to Chief Hink, at no time were more than eight of the city's fire stations housing 118 fire units left unoccupied.

Some idea of the pressure exerted upon the Fire Alarm Bureau and the field forces may be drawn from a summary of part of the log of the 22nd, subsequent to the N. Broad street fire.

It reads something like this—

5:44 P.M. Box 1774, full assignment—E. 67, 65, 41, 5; L. 6, 24; B.C. 11; R.S. 3.

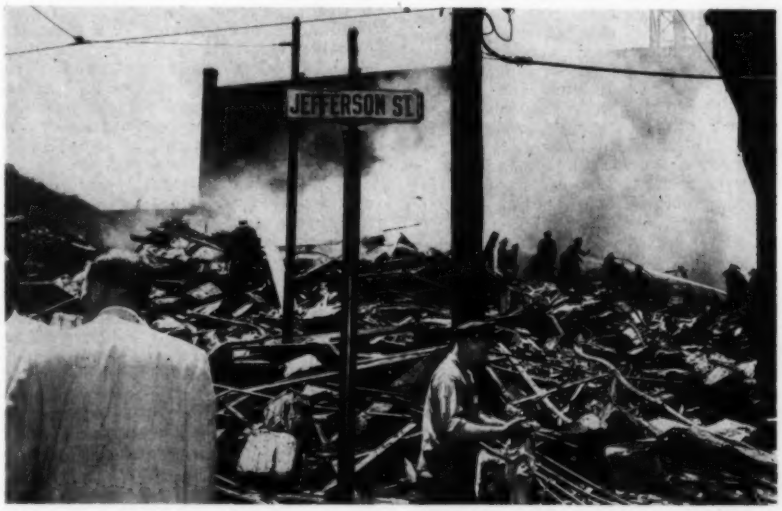
6:13 P.M. Box 2181—E. 42, 2, 5; W. 1, 28; L. 22, 16; B.C. 10.

7:31 P.M. Box 1224—E. 60, 1, 48; L. 11, B.C. 5.

7:37 P.M. Box 733—E. 67, 5, 68, 44; L. 6, 13; R.S. 3; B.C. 1, 7.

9:21 P.M. Box 573—E. 31, 42, 25, 15; L. 22, 3; P.L. 3; B.C. 6.

These and other calls which were re-



Wet water is applied via solid stream on burning warehouse debris. Time: 10:52 A.M., EST, June 24, 1953. Scene: After water fog, foam and fog-foam had been tried unsuccessfully to kill buried fire in rubber and tannin storage of collapsed warehouse. Fire started at 1:17 P.M., EST, June 22.

Wet water noticeably controls stubborn warehouse fire. Time: 11:42 A.M., EST. Scene, same as that taken at 10:52 A.M. after one hour application of wet water. The third 2½-inch wet water line now in operation. Building in rear is No. 2, loaded with crude rubber. Note unprotected windows.

ceived by the Fire Alarm Bureau as the vast complement continued to wrestle with the major blaze got prompt attention. But the end was not yet. At 1:41 A.M. on the morning of the 23rd. an alarm was received from Box 771, Broad and Diamond streets, for a fire in the 166th Field Artillery Armory. The first alarm brought a full response: E. 2, 27, 13, 30; L. 3, 14; P.L. 3; B.C. 3, 6.

The fire proved to be in the recreation room and the loft extending along the north side of the Armory. It had the makings of a serious blaze and at 1:46 P.M. a second alarm was struck for this fire, bringing E. 25, 31, 15, 26; L. 7; P.L. 4; R.S. 2; B.C. 4; the Chief and Assistant Chiefs of Department from the nearby seven-alarmer.

The story of the suppression of this threatening fire can be summed up in few words—the fire fighters wasted no time carrying the attack to the fire, inaccessible as it was. For what is said to be the first time in many veteran firemen's experience, a full-size aerial ladder truck and other apparatus was driven into the Armory and onto the drill floor; the main ladder was extended, mounted nozzle attached, and used to combat the blazing loft. Five hours and four minutes of rugged fire duty was chalked up by harassed firefighters before this fire was cancelled out.

While fire forces were still engaged in dousing the stubborn rubber and chemical fire at 9th and Jefferson, early on the 23rd "all hands" ran into a stubborn blaze in the establishment of S. Maxman & Bro. at Ritner and Swanson streets. The full alarm assignment which darkened this blaze, was directed by Battalion Chief Ethan Watson. The crews encountered difficulty in getting at the smoky smudge because of the 1,000 lb. of rags piled against windows and blocking of openings and passageways.

Another "worker" was discovered, oddly enough, by the Department's official photographer, Lieut. Kennedy, at 5:15 P.M. while driving Car 303. This was a three-story multiple dwelling for which he wasted no time in using radio and pulling Box 753 at Front and Susquehanna, to call forth a full assignment, E. 25, 2, 6, 42; L. 16, 22; P.L. 4 and B.C. 6.

Despite all the other demands made upon the Fire Bureau this fire was readily confined and extinguished.

Fourth Blaze Brings Rumors of Arson

At 9:25 the evening of the 23rd, the fourth big blaze—brought still more fire fighters into action and caused Chief Hink and the other Commissioners to wonder if a firebug might not be loose. This fire destroyed most of a phonograph warehouse and coin machine repair firm at 855 N. Broad street.

The fire was discovered by Sgt. Harry Arnoldy and Patrolman William Judge, in a police car. While one used radio the other officer pulled the box at Carlisle and Popular streets. The first-due battalion chief wasted no time sounding a second alarm and Chief Hink, who arrived from the rubber fire only a few seconds later, ordered the third, bringing a total of 34 pieces of apparatus and more than 200 firemen to this fire battle front.

Regular firemen at this operation were reinforced by 50 volunteer reserve firemen who were caught by the alarms while at class at 2nd and Race streets. Their help was welcome, as traffic jams and crowds of pedestrians slowed up the responding companies. An estimated audience of 7,000 persons flocked to this scene, while a small army kept vigil at the 9th and Jefferson incident, which was still causing the fire fighters trouble.

The Broad street fire apparently originated on the second floor, in the repair shop. It spread so rapidly that first arriving fire forces devoted their attention to protecting exposures. Notwithstanding this, the roof of the building at 857 N. Broad was ignited. Firemen managed to quell this threat, however, before it communicated to stock of motorcycles and other equipment in the building.

A wall of water protected structures on the south side, and on the east side of Watts street, preventing extension of the threatening fire. Heavy streams directed into the burning structure soon brought the blaze under control, but overhauling took hours more labor for the firefighters. Property loss was extensive in this blaze.

To return to the heart of the drama, at 9th and Jefferson, two hours after the fire started in the wreckage Police Commissioner Thomas J. Gibbons ordered all occupants of the area bounded by 4th and 12th and Columbia and Fairmount avenues evacuated from their homes. The step, which required removal of some 600 persons, was taken on the advice of Chief Surgeon Saverio Brunetti. By this time the heavy, choking smoke from the burning rubber and chemicals was dropping firefighters and affecting civilians throughout the area.

In this extremity a Red Cross shelter was set up in the Bayuk Cigar plant, 9th and Columbia avenue, where volunteers organized facilities for feeding, clothing and lodging the temporarily homeless.

Shortly before 6:00 P.M. (June 22) a shift in the wind caused Gibbons to add to the possible evacuation area the section bounded by 7th and 10th streets, Columbia avenue and Thompson street, north and northwest of the firegrounds. A Boys' Club at 9th and Columbia was designated as a second mass care shelter if needed.

Meanwhile the list of firefighters and spectators injured grew apace. Accident wards were activated at St. Luke's and Children's Center. One of the early victims treated was Fire Department Photographer Lieut. Kennedy, who suffered burns of the hand while photographing fire scenes.

The cause of much distress among firefighters was the slippery footing resulting from the oozing liquid rubber mixed with scalding hot water and chemicals, which flowed out of the wreckage. Many a fireman suffered burns and ruined his uniform or turnout by falling into this concoction. Much hose and fire equipment also was ruined, or badly damaged, by contact with this excrescence during the protracted operations to confine and extinguish this major blaze, operations which continued with practically no intermission from the period following the collapse, June 22 to the afternoon of 24th.

The experience of the department at this fire closely paralleled that of the New York Fire Department at Furman street, Brooklyn, rubber fire of April 20, 1935, which also burned for two days, and necessitated the treatment of over 1,000 persons, about 100 of them firemen. Efforts to drown out this fire with water proved unavailing, and foam was tried—more than 10,000 pounds of powder being used, before the fire was finally smothered.

As at the Brooklyn blaze, water streams had little effect on the burning rubber although they held down the fire in the wood and other combustible debris. The moment the streams were removed from the combustibles, however, they were reignited by the blazing rubber.

Knowing full well the limitations of plain water as an effective extinguishing agent against burning rubber, Chief Hink determined early in the fight to try water fog, the department being

(*Continued on page* 685)

The Fire and Explosion Hazards of Gaseous Fuels

More Light on a Subject That is of Increasing Concern to all Fire Officials Wherever Natural Gas is Used

By ALLEN J. JOHNSON

***Editor's Note*: This report is taken with the permission of the author from an address delivered by Mr. Johnson before the Massachusetts Fire Fighting Conference, in Worcester, Mass., January 8, 1953, and the New England Association of Fire Chiefs, Wentworth-by-the-Sea, June 23, 1953.**

Mr. Johnson is a well-known consulting mechanical engineer who specializes in fuels and combustion and whose offices are at 344 Congress Ave., Lansdowne, Penna. The forthright opinions expressed in his thesis are not necessarily those of the editors; they are presented, however, as evidence that the storage, distribution and use of natural gas constitutes serious explosion and fire threats, to which fire protection authorities must be constantly alert.

IN the Northeastern States natural gas is only six years old. Nevertheless, on the record already available, it seems indisputable that it offers a potential threat to life and property of sufficient magnitude to warrant prominence on the list of local fire and explosion hazards.

In order to fully realize the problems involved, it is necessary first to review, even if only sketchily, the rapid growth of the natural gas industry.

Less than thirty years ago less than 4% of the total requirements of the United States were supplied by natural gas; and even this was distributed on a purely local basis. Within this period, production increased over sevenfold until natural gas now supplies over 20% of our now greatly augmented energy needs through a network of well over 200,000 miles of transmission lines.

Only six years ago, the conversion of the "big inch" and "little inch" lines to natural gas marked the introduction of this fuel into the Northeastern States; today the amount distributed northeast of Washington, D. C., by three companies alone, parallels the entire annual energy production of the anthracite industry.

This expansion and construction is by no means over. In fact, the Petroleum Administration for Defense has just predicted that by 1955 over 94% of all gas distributed to the ultimate consumer will consist, either all or in part, of natural gas. They further predict that almost 10 million tons of new pipe lines will be laid in the next three years, and that over 70% of this new pipe will be over 16" in diameter.

A close connection is seen between this rapid, and at times almost frantic, growth of the natural gas industry and a failure to institute higher standards of safety in construction and operation. A code designed in 1942 for gas transmission lines proved adequate for the mesquite prairie crossings constituting most of the pre-war construction; but it seems unfortunate that it was not more drastically changed when larger diameter pipe lines began to traverse valuable suburban properties, closely knit farms, and even urban communities.

A Rapidly Growing Industry

As a result we find that transmission lines are being built in such areas with factors-of-safety that are only a fraction of those considered standard for other comparable pipes designed to carry high pressure fluids. Other precautions normally taken during orderly construction are often thrown to the winds in the haste to complete lines in a minimum of time and at the lowest possible cost. Dumping pipes from cars and trucks is a frequent example, despite the fully recognized hazard of even a deep scratch to vessels carrying a full pressure load. One company has twice admitted in court, in my presence, that their 16" pipe laid in the open for over a year without any protection from the weather before being used. Even when questioned as to the bursting strength of the pipe being used, company engineers usually refer to general test codes instead of citing from specific tests on the pipe at hand.

Even granting proper design and construction, there are two separate and distinct hazards in connection with the operation of natural gas lines, the mechanical bursting of the pipe due to internal pressures in excess of its strength, and the ignition of explosive mixtures contained therein.

In a 16" line operating at 750 psi the bursting pressure for each lineal foot is 72 tons. As the only force in opposition to this bursting are the two sidewalls of ⅜" or even less in thickness, it is easy to see why ruptures have occurred due to even relatively minor changes in pipe stress. These have been attributed to a myriad of causes including basic failure of the pipe or welds, corrosion, electrolysis, traffic vibration, earth tremors, nearby blasting, washouts, land settlements, floods, erosion, mechanical damage to the pipe, etc.

Since the shear strength of steel is very much less than its bursting strength, there is a great likelihood that even a slight rupture will tear into a long horizontal break at the instant of rupture. In one outstanding example at King of Prussia, Pennsylvania, such a tear extended for some 3,150 feet until finally stopped by the construction at a railroad underpass. The thirty-inch pipe involved was ripped into ribbons, as though by giant pinking shears, and spewed all over the right-of-way, with sizable pieces even lodging in the tops of trees.

In the case of a simple rupture, where ignition does not occur, the hazard is usually limited to the danger of being struck by the pipe, pipe fragments, rocks, or other debris. In one instance, on the occasion of a break in Northern Connecticut, a housewife described a veritable rain of rock and stones around her home, some 750 feet from the pipe

Escaped natural gas seepage into a main sewer line in Jefferson, Pa., touched off a series of explosions on February 9, 1951, which reduced a block of six homes to rubble and killed two persons, while injuring six others. The view here shows smoldering remains of some of the homes, leveled by the blasts.

line. Unsuccessful attempts have been made to require transmission companies to exclude rocks and large stones from backfill; the companies being in opposition because, among other reasons, such heavy fill helps to hold the pipe down in the event of a rising water table.

After the initial blast damage, the obvious danger of a rupture is the ever-present one of ignition. Since the United States Bureau of Mines has determined that ignition of a natural gas-air mixture occurs with static sparks of 2/10 of a millijoule, with this being 1,000 times less energy than that liberated by the combustion of the smallest particle of coal that can be weighed on a sensitive analytical balance, it is safe to assume that nearly all major high pressure pipeline rupture will be followed by fire. At least this assumption should be used as a basis for the complete evacuation of the area of a leak, and of keeping even firemen and other emergency workers at a safe distance at all times. Anyone who has ever been singed by the puff of a gas oven that was a little too full of gas-air mixtures when lighted, will know that "safe distance" does not mean adjacent to the column of escaping gas. Moreover. in anticipating ignition it is well to remember that a small stone striking the pipe or debris may be all that is needed.

Under ordinary conditions existing in homes and in industry, it is difficult to insure the complete absence of such sources of ignition as, open flames, static sparks, inductive sparks, electric arcs, hot wires, compression, shock, friction, heated surfaces, and hot flying particles.

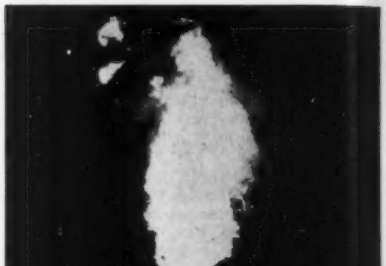
Conditions for an Explosion

As distinguished from a rupture even though the same may be, and usually is, followed by fire, an explosion consists of the actual chemical combination of gas and oxygen, usually under relatively close confinement. If a combustible gas is added continuously to a given quantity of air, the concentration of the gas increases and eventually reaches a value known as the lower limit of flammability. Gas-air mixtures whose concentrations are below the lower limit of flammability are not flammable. With further continued addition of combustible gas, a second value, known as the upper limit of flammability, is reached. Gas-air mixtures whose concentrations are above the upper limit of flammability are not flammable. Mixtures whose concentrations lie between the lower and upper limits are flammable; i.e., flame can propagate through the mixture indefinitely once ignited. At atmospheric pressures the Bureau of Mines finds that natural gas-air is flammable when the gas percentage lies between 4.5% and 14.2%; but at the higher pressures of 500 psi while the lower limit remains substantially the same, the mixture continues to be flammable until the gas in the mixture comprises 44.2% of the total. Thus, gas under the high pressures of transmission lines has a wider range of flammability than low pressure gas.

The gaseous products formed by explosion of combustible gas-air mixtures near their upper limit contain large amounts of combustible hydrogen and carbon monoxide. Addition of air to these combustible products of the initial explosion can form a second explosive mixture, which may be ignited by even small fires resulting from the first explosion, to thus cause a second explosion. The gaseous products formed by explosion of combustible gas-air mixtures near the lower limit consist chiefly of non-combustible carbon dioxide, water, and unused air. Addition of air to these products cannot form a secondary explosion.

In gauging the force of a natural gas explosion, it has been estimated that every 2½ feet of a 30" pipe line contains combustion energy equivalent to the explosive energy of a 500 pound bomb.

The Texas City disaster involved an explosion of about 2000 tons of ammonium nitrate. Calculations show that every 4½ miles of such a pipe line contains combustion energy equivalent to the explosion energy of the Texas City disaster.

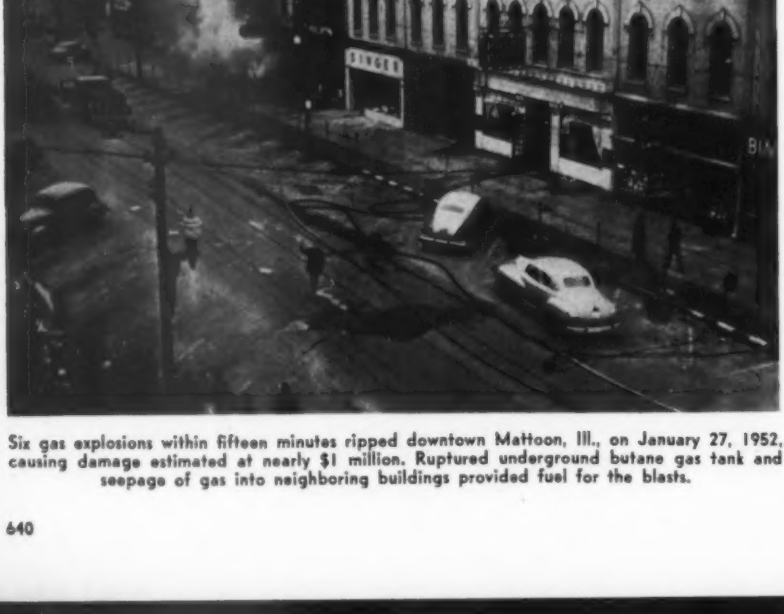


Flames shoot high into the sky in the early morning of July 9, 1952, from the Little Inch pipeline near York, Pa. A rupture of the line, and ignition of the escaping natural gas, provided a three-hour blaze.

Technically, true explosions are possible only when the pipe contains a mixture of gas and air in the flammable range; such as normally occurs only when the line is initially placed in service or after a shutdown. However, for all practical purposes, the distinction between a rupture and an explosion is largely academic, since the results after the first flash are substantially the same.

It is important to note that even a small gas leak can supply enough energy to the air to result in a small local exposion. As a result of such a small explosion or progressive failure in a pipe due to previously undetected accident, considerable explosive mixture at high pressure can be ejected into the air. In addition to inducing further failure, a leak of any size thus represents a danger in the sense that it provides a readily available explosive mixture which can then initiate a very violent explosion in the event of a subsequent more pronounced failure.

Once ignited, the high pressure of natural gas lines, as fed by the large volume of gas contained between shut-off valves insures a sustained fire of great magnitude. In this State the standard minimum distance between shutoff valves is eight miles. Even if the valves at both sides of a break are shut off at the instant of a break, and this has its own serious hazards as will be described, an 8 mile line, 16" in diameter and at 750 psi pressure contains 2,800,000 cubic feet of gas, all but 56,600 cubic feet of which must burn or otherwise escape before the broken section is reduced to atmospheric pressure. Furthermore, as a combustible mixture may contain as little as 4.5% of gas, the actual amount of gaseous mixture involved in the conflagration will approximate 62,000,000 cubic feet.



Six gas explosions within fifteen minutes ripped downtown Mattoon, Ill., on January 27, 1952, causing damage estimated at nearly $1 million. Ruptured underground butane gas tank and seepage of gas into neighboring buildings provided fuel for the blasts.

To Combat—Shut Off the Flow

Virtually the only way to combat a natural gas fire or serious leak is to shut off the flow on both sides of the break. Even where it might be possible to ex-

tinguish the flame, the hazard of large quantities of gas escaping into the atmosphere usually makes it advisable to let it burn regardless of the amount of damage which it may be doing. This is especially true where the major amount of real damage has been completed before you arrive. Most fire companies therefore confine their activities to preventing the spread of the flames, while hastening the extinguishment of the major conflagration only through locating and shutting off the proper control valves.

Precautions taken well in advance of pipe line trouble are by all odds the most valuable, including:

1. A thorough knowledge of the location of all high pressure lines and laterals in your area.

2. A knowledge of the location of the proper valves for the isolation of any section of the lines which might give trouble.

3. An arrangement with the gas company whereby an authorized representative will be available on short notice at any time. To be of any value to you, such a man must have sufficient authority to take any action necessary, even to that of closing valves.

4. Plans for warning signs and even for the evacuation of an area whenever there is (1) a line break of even a seemingly minor nature, (2) fire adjacent to the right-of-way, (including brush or woods fires dangerously close to the lines), (3) any signs of the removal of earth or other support from either under or over the line, (4) any other signs of unusual disturbances that might disturb the line to even the slightest extent.

Interruption of service is a serious matter to gas companies because of the hazards involved in resumption after the emergency has passed, as well as for other reasons. For this reason, they have been known to delay the closing of valves long after a real emergency has developed. One such example occurred recently when the chief of a large city fire department was forced to stand and watch explosion after explosion around him, including one which threw several firemen to the ground, while officials of the two gas companies involved each argued that the other was responsible and should thus shut his valves. Such unfortunate situations should be worked out in advance in the form of a definite plan of action to cover a line break at any point in the State.

A classic example of a lack of such planning occurred recently in the vicinity of Somerville, New Jersey. At 9:40 A.M. an alert police officer smelled gas, and upon investigation found a leak on a farm of such magnitude that it could be seen shimmering in the sun. In the absence of local representatives, the police clerk was obliged to call the contractor at Hartford, Connecticut, reaching him at 10:25. He was instructed to block off all nearby roads and wait. Nearly three hours later at 1:10 the contractor's representative phoned back that someone was being dispatched to the scene from Suffern, New York, and not to let anyone else near the leak. At 2:25 this man appeared, but evidently lacking authority to take any real action, he spent the next hour phoning the Hartford principal, to tell him what the police had now known for nearly five hours, that the leak was a bad one. At 3:40 another representative appeared, and after seeing the seriousness of the leak, shut off the proper valves. At 4:40, just seven hours after its discovery, gas flow from the leak stopped and the road blocks were removed.

However, the too-sudden shutting of a valve ahead of a leak can also be hazardous. With the pumping stations continuously forcing gas through the line, together with the inertia of the gas flowing at high pressure, such a sudden stoppage can cause a second break ahead of the valve. For this reason many gas company engineers look askance at automatic gas valves on large lines, even though they are permitted if not even encouraged by all present state gas codes excepting New York. For this reason, the area behind an automatic valve should be listed as a zone of potential hazard.

While gas companies habitually minimize the hazard of fires and explosions as applied to natural gas systems, tangible proof is seen in reports to the Federal Power Commission listing over 1,700 failures, ranging in importance from those with nominal damage to one which involved injuries to 18 persons and property damage of over $1,000,000.

As approximately half of these fires and breaks occurred while lines were being tested, this suggests the desirability of alerting the local fire companies whenever such tests are scheduled.

A tabulation of those reports which included data on lateral damage showed that 50 percent of all reported pipeline breaks caused substantial physical or property damage up to 333 feet from the center of the pipe; 33% caused such damage up to 500 feet; with a maximum damage range of over 3,000 feet.

Nor are these 1,700 breaks the isolated experiences of a few careless companies as is shown by the following analysis in which:

14	companies	reported	1	to 19	failures
5	"	"	20	or more	failures
2	"	"	40	" "	"
2	"	"	50	" "	"
1	"	"	80	" "	"
3	"	"	100	" "	"

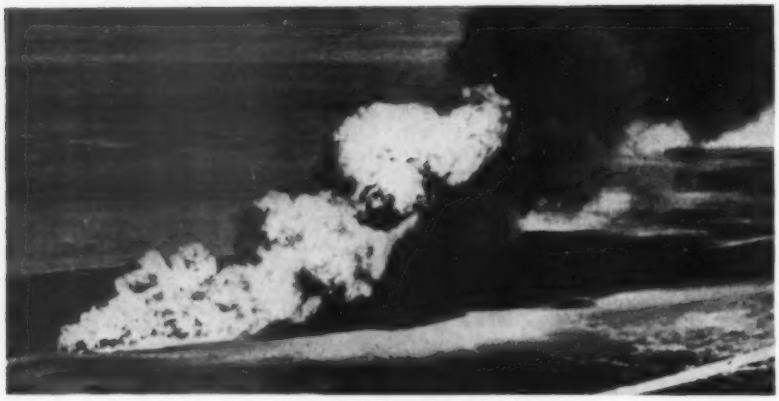
The question most frequently asked is that with the good safety record of manufactured gas, why should natural gas be different. There are several answers to this, the most important of which is one of relative pressures.

From its point of manufacture to its ultimate use, manufactured gas usually remains at low pressures. Even in the few instances where the gas is compressed for distributional purposes the pressure never even approximates the 400, 750, and even 900 psi of natural gas. Thus all of the pressure hazards described apply to natural gas in much greater force than to manufactured gas. This point becomes particularly important when it is noted that the explosive force varies as the cube of the pressure. Thus gas at 250 pounds has a potential force 1,000 times that of 25 pounds and not ten times as might be expected.

Another important difference is that manufactured gas is so made that no plant accident can increase its original pressure beyond the ounces provided by the weight of the gas holder. Even when such gas is compressed and delivered to remote localities at higher pressures much of it is usually placed in district holders for distribution at an insured low pressure. In contrast, nearly always the several hundreds of pounds pressure in natural gas is reduced in a series of mechanical regulators; the failure of one or more of which can, and has, sent much higher pressures into consumers' lines than they were designed to handle.

Just such a regulator failure was reportedly responsible for one of our worst gas disasters—that at Brighton, a suburb of Rochester, New York. Here a relatively minor fire disrupted two series regulators to such an extent that some 25 pounds pressure was sent into the residential district, instead of the ounces for which designed. As a result, thin sheet metal meters burst, pilot lights burned three feet high, extinguished burners ignited, and general pandemonium ensued. When, hours later, the city was able to count its toll it totaled three dead, including a little girl who had been trying to call her

One man was burned when a propane-carrying pipeline was severed by a road grading machine near Houston, Tex., on June 19. The gas was being pumped to a Warren Petroleum Corp. tank farm when the accident occurred.



Flames and smoke rise from the El Paso Natural Gas Company pipeline near Dawn, Tex., June 11, 1952, after an explosion on the line. The 25-inch pipeline, which transports 145 million cubic feet of gas to the West Coast daily, burned out of control for more than two hours.

father to tell him that the gas was leaking; injuries to some thirty others; the complete destruction of 19 homes; and serious damage to 25 other buildings.

Yet despite this catastrophe, few gas distributing companies are even today fully meeting the resultant recommendations of the National Fire Underwriters or the United States Bureau of Mines.

A further point of difference between natural and manufactured gas that has caused much trouble is the former's tendency to so dry out the oakum packing between pipe sections as to cause continuous leaks in lines not elaborately reconditioned for its use.

The hazard of natural gas arising from its absence of a warning odor is intended to be met in those states having a gas code through a requirement for artificial odorization. However, it has been found that, under certain conditions, as the gas is forced under high pressure through sand and clay it is sufficiently purified by the filtering action of the earth as to lose its tell-tale signal.

This tendency of gas to travel for considerable distances underground has spelled disaster in several instances. This fugacious fluid has been known to follow water pipes and other service lines from even relatively remote street leaks into homes, where in at least two instances of recent record, it has resulted in loss of life and complete destruction of the buildings. The recommended remedy is to place a dry-well around entering services so that accompanying gas will be vented in the yard before it can enter the cellar.

The most dangerous fuel of all from this latter standpoint is the so-called bottled gas, or propane. Being heavier than air, it tends to cling to the ground and accumulate in low places until ignited. By this time a substantial quantity is often present involving considerable areas and several buildings. In addition to this most undesirable property, propane is very hard to contain without strict precautions at all points of handling, storage, and use.

Being practical men, Fire Chiefs would have been entitled to the assumption that, even if the admittedly responsible gas companies choose to disregard fundamental precautions in the design and operation of their lines, they would have been restrained by adequate federal and state regulation.

Unfortunately, they would not have been wholly correct. The Federal Government makes no attempt to regulate either the construction or operation of such lines; and while Massachusetts adopted a natural gas code in May, 1952, it is so weak in several of its most vital points as to offer questionable protection to the public. I refer most specifically to the low factors of safety allowable under the code for even urban construction, these having probably been inherited from the 1942 version of the ASA code or its successors; to the fact that pipe line construction is permitted within 40 feet of an occupied building, a lethal distance in case of either explosion or rupture; and finally to the fact that the real safety test of the ASA code, requiring test at 150% of operating pressure, has been dropped to retain only the leak finding provision of 50 pounds over operating pressure. As is befitting a growing state, New York requires heavier line construction even where the right-of-way traverses an area "zoned residential", Massachusetts and all other codes which I have examined adopt the principle that the one to get there first determines the strength of the line with all future construction being obliged to proceed at its own risk.

It therefore becomes a matter of greatest civic importance that fire protection officials each become alerted to all potential hazards within their respective areas to the end that optimum service can be given if needed.

Court Ruling in Firemen Suspension

A recent ruling in a Santa Monica, Calif., court has special interest for the nation's fire service because the case concerned two firemen suspended for allegedly taking part in quasi-political activity.

The firemen, both members of the Santa Monica Fire Department, were suspended for periods up to 15 days by the city's personnel board. It was charged the firemen went to a local realty board to learn its position on a possible merger between Los Angeles and Santa Monica.

The firemen were interested, it was brought out, because there was "quite a difference in the rate of pay between the Los Angeles and Santa Monica" departments and about a 24-hour a month difference in working hours. The Los Angeles setup was better.

The personnel board made the suspensions on grounds the firemen, both members of the AFL International Association of Firefighters, were taking part in political activity.

Superior Court Judge Stanley Mosk ruled, however, that public servants, even though their political activity is proscribed, do not lose all reasonable rights of citizenship. Where municipal employes merely seek information on a public question of interest, the jurist held that they could not legally be suspended on grounds they were taking part in political activity.

Although both firemen had been reinstated before Judge Mosk's ruling, the jurist ordered that the firemen be given back pay for the period they were suspended. Attorney Dave Sokol, who represented the firemen, said the case was Hattaway and Ponton v. City of Santa Monica and the judge's memorandum opinion is listed as No. SMC 3568 in court records.

PAUL C. DITZEL

Ohio Industrial Fire Training Conference Held

The annual meeting of the Ohio Industrial Fire Safety Training Conference, sponsored by the Ohio Fire Brigades Association, was held at Columbus, Ohio, on May 27 through 29th. During the three days, there were approximately 100 industrial leaders in attendance at the different sessions.

The first hour each morning and afternoon was devoted to general sessions, at which time such men appeared and such subjects handled as: "Fire Safety Aids Available to Industry from the Insurance Companies," by Charles K. Mercer, Director of Loss Prevention, Indiana Farmers Mutual Insurance Company, Indianapolis, Ind.; "Combating Electrostatic Spark," by Walter G. Overman, Sales Engineer, The Overman Company, Cincinnati, Ohio; and a panel on "Safe Smoking Rules," which included George Reed, Safety Director of the Shellmar Corporation, Mt. Vernon, Ohio; C. S. Kuskowski, Divisional Superintendent, The Columbus Coated Fabrics Corp., Columbus, Ohio; Roscoe Brane, Fire Marshal, The Rike-Kumler Company, Dayton, Ohio; Homer Johnson, Chief, Division of Fire, Findley, Ohio. A demonstration on "20 Fires in a House: What Caused Them," by District Chief Carl J. Shields, Division of Fire, Dayton, Ohio, was also included in this section of the program. An article on this demonstration was featured in *Life Magazine*.

During the second hours of the morning and afternoon, the groups were broken down into two sections. One of the groups was known as the C Group which was made up of those more advanced in the field of fire safety. During their sessions, such subjects were handled as: "Aids in the Establishment of a Fire Brigade Program," by Charles Scott, Ohio State Fire Marshal; "Spray Sprinklers," by Carl Setzer, the Ohio Inspection Bureau; "New Methods of Fire Extinguishment," by R. D. Swanson, Socony Vacuum Co.; "Industrial Inspection Procedures," by Emil Epperson, Ohio Inspection Bureau.

A "Stump the Panel" program was headed by Frank Goodlander, Fire Chief of the Proctor and Gamble Co., Ivorydale, Ohio, and consisted of Frank

(*Continued on page 684*)

Drop in Deaths from Fireworks; Injuries Still Take Their Toll

Plant Explosions and Store Fires Principal Causes of Fatalities

ALTHOUGH the death toll attributed to fireworks on this year's Fourth of July shows a marked reduction from last year, there were many persons injured, notwithstanding the fact that many states have laws forbidding sale or discharging of fireworks. Some of the more unusual accidents are recounted herein.

Four Dead, Ninety Injured in Houston Blast

Four persons were killed, ninety wounded and property damage estimated at $3 million resulted from the worst explosion in the history of Houston, Tex., on June 5, last, when twenty tons of explosives let go.

The blast occured at 3:20 P.M. in an unlicensed warehouse of the Alco Fireworks and Specialty Co., 1208 Rosine street. The official headquarters of the firm at 1215 Rosine, wherein was stored 50,000 pounds of fireworks, and for which the company had a fireworks storage permit, did not explode.

The tremendous blast disintegrated the one-story metal covered warehouse and wrecked or damaged 57 buildings and houses in a two-block W. Clay-Waugh Drive area. Roof tops and sidings were ripped from structures up to three blocks away and the blast shattered windows for miles around. Oddly enough, no one was killed in the fireworks plant and warehouse.

Alco's general manager reported he was tacking a fireworks display on a board and that his hammer either hit a firecracker, or a spark from the nail ignited it, to set it off. He said he tried to extinguish, unsuccessfully, then ran from the building when fire started to spread. He suffered a burned left hand. The owner of the plant was across the street in the company offices at the time of the blast but was unhurt.

The four dead, three adults and a child, were found in the rubble of one of four homes behind the plant that was shattered.

Fire followed the explosion and apparatus converged on the burning wreckage, while householders, some considerable distances from the scene, turned garden hoses on burning bits of fireworks and embers scattered by the explosion. Firemen worked hard to cool the area above a large gasoline storage tank and pump to prevent a further blast.

Medical and relief agencies, together with police, were quickly on the scene. Virtual martial law was declared by officers, deputy sheriffs and the Texas State Highway Department troopers, who roped off the blasted area and started search for the missing and injured. Fire safety cars with loud speakers blaring, roamed the four-block area ordering people away from the blast scene because of the danger of further explosions. At night, loud speakers were used to advise the 50 or more families whose homes had been wrecked by the explosion where to obtain shelter, food and clothing.

Immediately following the disaster, it was disclosed that although the city had an ordinance which prohibited the discharge of firecrackers, plants and warehouses filled with fireworks were permitted to do business. The Houston Chronicle, commented on this editorially:

"Fireworks should be neither manufactured nor stored within several hundred feet of human habitation, or streets along which people travel. . . . Yet here we have an instance of large quantities of explosives stored in a fairly congested area, a mixed residential and business district, near heavily traveled thoroughfares. And not only stored but assembled. . . . What a grim joke on the people of this metropolis of 700,000 people to learn that while the sale of fireworks is prohibited within the city limits and the explosion of a single firecracker is a violation of a city ordinance, a huge quantity of such explosives may

Why Houston Will Probably Prohibit Fireworks

Four persons were killed, 90 injured, when a building of the plant of Alco Fireworks and Specialty Co., Houston, Tex., loaded with 20 tons of explosives, erupted. Unlicensed structure used to assemble fireworks was located in built-up, busy area. Fire which followed blast was controlled by firemen. Cause: worker tacking together a set piece.

"Firecracker Hill," Fort Worth, Celebrates the Fourth

One of the fireworks firms to "go boom" this year was the Wilfong Fireworks Co., on the northwest outskirts of Fort Worth, Tex. Stocked to rafters with fireworks for the Fourth, the concrete structure was blown apart June 10th, and demolished a $22,000 home, a duplex, a minnow depot, grocery store and retail stand, and damaged an apartment and 100 other structures over a three-block area. Miraculously there were no deaths and only 15 persons were injured, two of them firemen. Loss was estimated at $400,000.

be stored and even assembled in the heart of the city."

Two Die in Schenectady Fireworks Blast

Almost simultaneous with the Houston tragedy came the explosion and fire in the North American Fireworks Co. plant off Aqueduct Rd. 4 miles east of Schenectady, the morning of June 6. Trapped and killed were the owner and one employee. Another worker was seriously injured and a third fled, unhurt.

The 3-year-old plant, of cement block, measuring 20 x 30 ft., like that in Houston, disintegrated, fire involving the ruins immediately. Like the Houston plant, the firm was engaged in production of fireworks for public and commercial display purposes. Like its prototype, the detonation was felt over a wide area; neighboring structures were damaged; windows broken.

Following this blast also, telephone switchboards in fire, police and newspaper offices lit up like Christmas trees; as the radios broadcast information about the blast the crowds of curiosity seekers multiplied, to interfere with fire fighters, and rescue workers.

Fireworks Start Costly Lumber Fire

Illegal fireworks, allegedly tossed into a sawdust bin to "scare away birds," caused a $30,000 fire at the Stockbridge, Mass., Lumber Co. yard over the Holiday weekend. The fire was discovered shortly after 7:00 P.M. Friday evening and was visible many miles.

A 17 and a 14-year-old boy hitchhiked to Canaan, Conn., where each bought $1 worth of two-inch salutes. Upon reentering Massachusetts, one of the pair expended his collection, but the other lad saved most of this to scare birds away from a saw dust bin at the corner of the mill. State detectives said the boys fired the salutes about 5:00 P.M., then went fishing.

The fire had gained so much headway when reported that fire fighters concentrated on saving a near-by combination apartment house and storage shed. Four pieces of apparatus from Hose Co. No. 1, in Stockbridge, Glendale and Interlaken fought the fire under Fire Chief Edward Pilling. The blaze was under control at 10:45 but two companies were stationed at the ruins all night.

Connecticut Pops Last Firecracker

This fire was not the only one caused by "bootlegged" fireworks from Connecticut. Regrettably enough, many of these fireworks sold openly along main highways, notwithstanding bans on the distribution of fireworks in many areas, were peddled by volunteer firemen under the guise that the funds were required to pay for apparatus and equipment.

According to a leading fireworks manufacturer in that state, 69 towns in the state prohibited fireworks within the communities and 100 still permitted their sale. The tiny community of Georgetown, off Route 7, was reported "loaded with fireworks"; three Eager Beavers, all firemen, did a thriving business in a well stocked stand beside the firehouse.

Connecticut's legislature approved a ban on fireworks manufacture and sale in that state, after July 1953.

The national legislative picture also is improving. The House of Representatives on July 20, passed by voice vote and sent to the Senate a bill to prohibit shipment of fireworks into states that forbid their sale.

Members of the International Association of Fire Chiefs, The National Fire Protection Association, and other organizations, all have endorsed this bill.

Rochester Fire Fighters in Mercy Move

Last June a Rochester, N. Y., fire unit proceeded slowly across the city in a convoy of mercy for a 25-year-old ex-soldier suffering from infantile paralysis.

The fire department was called in when it was found no other vehicle would accommodate the rocking bed, a device George V. Fatt, the polio victim, requires to sustain life.

Fatt, stricken with polio in 1947 while serving with the 25th Infantry in Japan, has fought valiantly to regain his health. On June 21 he took a turn for the worse and physicians decided to move him from his home to Strong Memorial Hospital for further treatment. An ambulance was summoned but it was found that the patient could not be removed from the rocking bed. The call to the fire department which followed, brought the Protectives' (Salvage) unit and the Hose Depot truck.

Fireman Robert Keck set up a special generator to power the rocking bed, and the ambulance attendants and firemen from Ladder 8, which also responded, carefully moved the bed to the Hose Depot unit driven by Fireman Lawrence Koen.

Hundreds watched in wonderment and compassion as the fire vehicle preceded by a police car and followed by the ambulance, made its way through the city streets to the hospital, shortly before 6:00 P.M. In all, the movement from the victim's home to the hospital took a little more than two hours.

Placed under the care of specialists at the hospital, the patient's condition was reported "fair."

JOHN A. SLATTERY, Chief,
Rochester Fire Bureau

Eighth Ohio Fire School Sept. 8-11

Dr. Harvey Walker, Director of the Ohio State Fire School, at Ohio State University, announces that Susan B. Rutherford, Assistant Secretary of State from Frankfort, Kentucky, will address the School on "Women's Place in Fire Prevention and Fire Fighting." She is the first woman to appear on the fire school program, and appeared before the Fire Instructors' Conference at Memphis, Tennessee.

Also to appear on the program will be G. R. Layden, Chief Engineer, Peter Pirsch and Sons Co., Kenosha, Wisconsin; Emmet Cox, of the Western Actuarial Bureau, Chicago; Bruce Bielaski, national authority on Arson Investigation for the National Board of Fire Underwriters; and Arnold Renner, Michigan State Fire Marshal. Donald C. Cook, Director of the Columbus Department of Public Safety, will welcome enrollees.

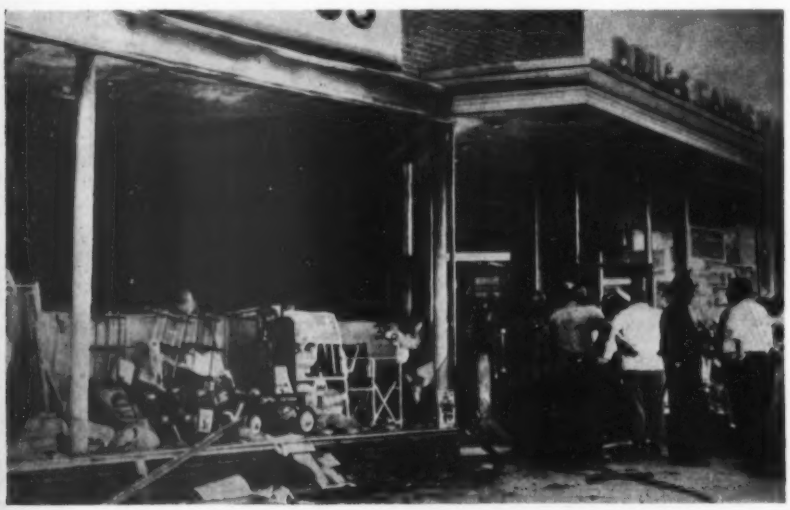
The Ohio State Fire School is sponsored jointly by Ohio State University, Department of Political Science; Vocational Trade and Industrial Service, State Department of Education; Division of State Fire Marshal and Ohio Inspection Bureau. It is to be held Sept. 8-11, inclusive, at Ohio State University, Columbus, Ohio.

Injured in Extinguisher Blast

Morris Fineberg, 27, of Philadelphia was injured June 14, last, when a fire extinguisher he was cleaning exploded at the Sun Ray Drug Co. warehouse, that city.

Police took him to Misericordia Hospital with severe facial cuts. His condition was listed as serious.

Police said Fineberg, a warehouse employe, was outside at the rear of the building cleaning several soda-and-acid containers. The blast (cause of which was not determined) showered him with fragments from the metal container.



"Safe and Sane" Fireworks Blast Kills Two in Drugstore

Two teen-age soda clerks died of suffocation and burns when a retail display of fireworks ignited in Kansas City, Mo. Fifteen other persons escaped the flash fire which destroyed store interior. Victims were believed trapped in effort to save possessions in their lockers at rear of store. Firemen used masks to recover bodies. Five engine, two ladder and other companies quickly controlled blaze. Cause attributed to a cigarette, or youths.

Albuquerque firemen fight arson fire. Line being operated into second floor front of modernistic Sears store as fire, started by 14-year-old girl, rages through structure.

Juvenile Arsonist Starts $1 Million Fire

A 14-year-old girl admitted, after questioning, starting what Fire Chief Art Westerfield of Albuquerque, N. M., reported the biggest fire in amount of damage in the city's history, with loss said to be $1 million.

The confession climaxed outstanding police work, which uncovered the perpetrator, who finally admitted she dropped a lighted match into paper and cartons in the shoe department of the Sears, Roebuck Co. store, Fifth St. at Central West, on Monday, May 18.

The girl admitted playing hookey from the Junior High School most of the 18th and attending three motion picture shows, then hiding in the Sears store shortly before it closed. After the store was locked for the night, she outfitted herself in cowboy togs in the store, helped herself to some guns and finally dropped the lighted match into the paper. She said she "just had a feeling to put a match to it to see it burn." Then she stood by until the blaze was "pretty high."

Ironically, she very nearly became a victim of the fire when she attempted to escape by a back door but couldn't find an exit. With the fire burning along the ceiling she rushed to the front door and broke the glass with the small gun which she carried away with her. She said she walked about a mile, then stopped at a filling station to wash blood from a cut hand; then walked back to see the fire, where police picked her up.

Police Officer Mercek, stationed in the alley just north of the burning store, noticed what he thought was a boy intently watching the fire so intently that he did not heed the officer's warning to move back. As the officer approached the figure, he noticed the youngster fitted the description he had received of one seen breaking out of the store. The "boy" as one witness believed her, apparently had cut a hand. Two patrolmen were investigating smoke which they noticed in the front windows of the store when they heard the crash of glass and saw someone in the front entrance, as though he had just come out of the store. The person yelled "Fire!" and fled when the policeman went to turn in the alarm.

With these facts to work on, and discovery by Fire Chief Westerfeld of a pair of girl's oxfords on the scorched floor of the first-floor shoe department, police and juvenile probation officers were able break the girl down and gain an admission.

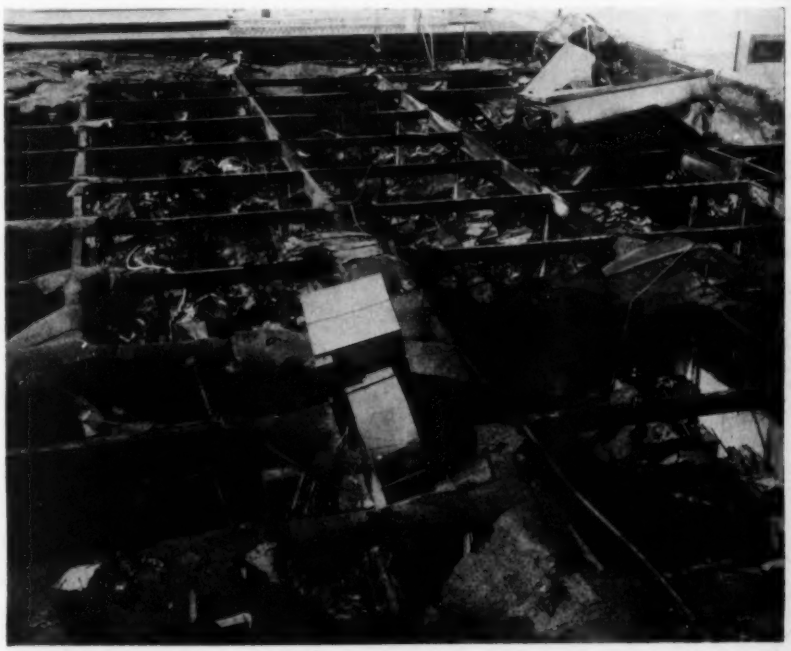
The fire, which wrecked the large two story structure built originally just prior to World War II and partially remodelled in 1946, had made great headway by the time fire fighters under Asst. Fire Chief Milton Grande arrived. Additional help was called until, at the height of the blaze, nine pieces of apparatus and over 70 fire men were engaged in the struggle to confine the fire. This equipment included two aerial ladders and five pumpers of the local department, one truck from Kirtland Air Force Base and one unit from the Santa Fe Shops. The latter was summoned under a long-standing mutual aid agreement. The Kirtland Base unit was not specifically called but its services were nevertheless appreciated. Over 70 per cent of the city's fire fighting equipment operated at the fire. Three pieces of apparatus were kept in reserve to cover the city.

Firemen encountered heavy smoke conditions and, although all-purpose masks were used (the department had no air or oxygen breathing equipment, it is reported), and men were able to work into the structure, it was impossible to hold positions. Five men were affected by smoke poisoning and hospitalized.

Fire fighters fought the fire for over 20 hours as small outbreaks continued in the ruins.

Fire Fighters by Air

Mass movement of fire fighters by air is not particularly new. We note from the annual report of the Honolulu Fire Department for the year 1949 that on July 26, that year, approximately 100 soldiers and their equipment were flown in three C-46 Troop Carriers, from Hickam Field to Bellows Field, to assist in fighting grass and brush fire which burned an estimated 1500 acres before being controlled. Transfer of the men and equipment was accomplished in minutes as compared with hours by automobile.



Total destruction in Albuquerque Sears, Roebuck store. Only steel members remain in upper part of fire-swept store after arson blaze which caused estimated loss of nearly $1 million.

MASKS AND FOG STREAMS SERVE IN CONTROLLING STUBBORN BLAZE

Converted Building Stocked With Textiles, Creates Fire That Gives New Haven Fire Department a Stiff Work-Out

A Staff Report

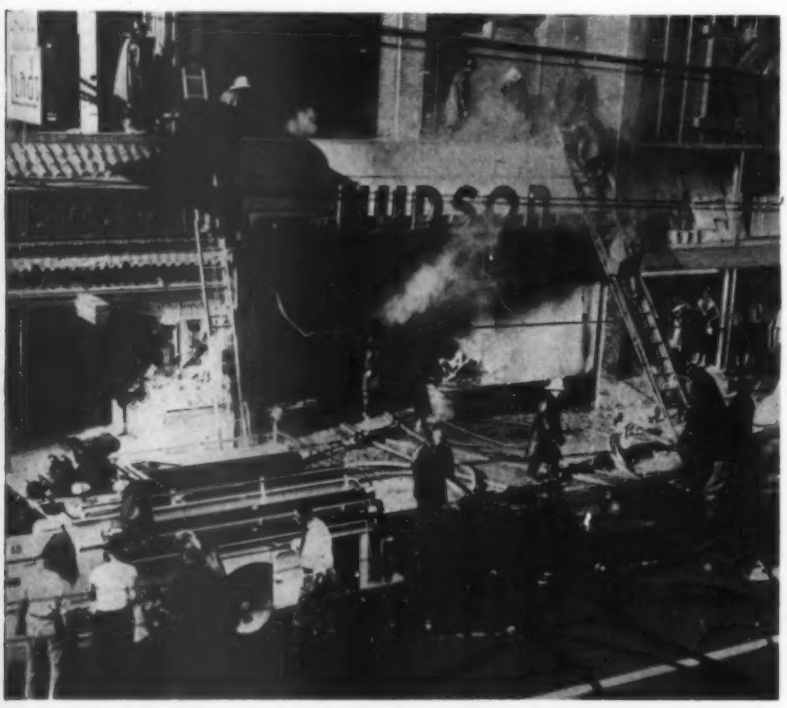
ANYONE who wants to write a prescription for a good fire, or a bad one, depending upon viewpoint, may well take the Hudson Curtain Shop fire which occurred in New Haven, Conn., on June 23, 1953, as a sample.

Given an ancient structure, originally a theatre, to which had been applied various alterations and 'face lifting'; set it amid numerous other occupancies of its ilk, in the city's busiest retail district, and high hazard area; fill it with stocks of textiles ready for ignition (much of them stored in most inaccessible places), and then bring on the fire at the peak of the day's shopping traffic period. Finally, add that old ingredient so often found in the prescriptions for serious fires—delayed discovery, and you have some "bitter medicine" for the fire department.

Only one element prevented this prescription from being filled in full and producing a serious fire indeed. That was the fact that the fire had to run the gauntlet of the New Haven Fire Department, which was ready for it with the necessary equipment and trained manpower. Notwithstanding this fact, however, twenty-one firemen were felled by smoke or otherwise injured during the course of the stubborn, smoky fire; and although the fire was held within the building, damage estimated at $150,000 was done to structure and contents.

At about 5:30 P.M., owners and employes of the Hudson Curtain Shop, a retail establishment dealing in venetian blinds, slip covers, window curtains, linens and cotton goods, at 841 Chapel street in the center of the city's shopping district, were getting ready to close shop, when fire was discovered. An employe smelled smoke at about the time a passerby observed the front awning ablaze. That the fire had been in progress for some time is evidenced by the fact that the first floor window blew out before the alarm was received at Fire Headquarters (Box 21) at 5:32 P.M. A stock boy also told about noticing an odor of smoke, about 4:00 P.M.

The battalion officer on the first response assignment wasted no time but called for a second alarm at 5:35 P.M. The third alarm was ordered by Assistant Chief Thomas J. Collins at 5:43, and the fourth alarm by Chief Paul P. Heinz at 6:08 P.M., after the punishing effects of the heavy, toxic smoke and the problems posed by the efforts to get to the seat of the fire were apparent. These alarms brought a total response of nine engine and five ladder companies, together with other special equipment.



Front view of the Hudson Curtain Shop fire taken after the fire was under control.

The building involved was of four-story brick, ordinary joist construction, fronting about 40 feet on Chapel street and extending back 100 feet toward Court street. Solid 16-inch sidewalls were attached to similar 16-inch sidewalls of adjacent buildings, housing a woman's apparel shop and a shoe store. These walls provided excellent fire stops on the east and west exposures.

The first floor of the building had concrete and tile flooring 18 inches thick, extending in about 50 feet from the front. It is evident this floor area had been extended an additional 50 feet, which accounted for a one-story addition in the rear. The floor extension no doubt was made when the structure was converted from a movie theatre (the old Globe Theatre) to retail occupancy. This floor extension was wood.

The basement was used for storage of various materials and fabrics, and separated into the usual cubicles by wood partitions. The only entrance into this area from the outside was through a rear door and narrow passageway. A coal hole in the front vestibule had been used for dropping delivered packages into the basement.

The fire apparently started in the front of the cellar from where it burned laterally to the rear, where it worked vertically through the wood floor of the one-story addition, ultimately taking a part of the roof of this section. In the balance of the building, the flames were confined to the front area of the four story structure.

The Hudson Shop was the only tenant of the damaged building, the three upper floors being unoccupied.

Efforts of first crews to enter the basement to come to grips with the smoky fire were unavailing because of the extreme heat and the fumes and smoke, even though most of the men wore masks. Hand lines were laid to cover the rear and the front first and second floor areas, and a 500 G.P.M. fog nozzle attached to a deluge gun was placed in the front door entrance on the first floor, the objective being to prevent the vertical extension of the fire. Another 500 G.P.M. fog nozzle was lashed to a 12-foot ladder and dropped into the coal hole in the front vestibule.

Shortly after this, the men operating in the rear passageway were driven back by the teriffic heat resulting from the action of the fog nozzle in the coal hole, despite the use of breathing apparatus which was in use throughout the entire operation.

The fog nozzle in the coal hole was shut down after about five minutes application to permit the men in the rear to re-enter the cellar, but because of the partitions and the depth of the water, which by this time had reached between two and three feet, no advancement was possible. Operation of the fog nozzle was then resumed and continued until the fire was brought under control.

The department's air compressor unit and jack hammers were brought in to make holes in the concrete floor over the cellar area where the fire started, and a Baker cellar pipe was placed in operation. After a few minutes application of this and the other large delivery fog nozzles, the main source of the fire was cooled down and the job was finished with 1½-inch lines.

During the size-up and check-up operations on the 2nd, 3rd and 4th

Fireman donning mask at Hudson Curtain Shop fire, New Haven, Conn.

floors early in the incident, breathing equipment was used successfully in examining side-walls, partitions, etc., under heavy smoke conditions.

So much of this respiratory equipment was in operation that supplies of available oxygen and air ran low and emergency supplies had to be brought in from fire stations and other sources. It was in this task that Fireman Fred Kaiser, 45, was seriously injured. He was driving the department's maintenance truck back to the Central Fire Station for a load of tanks (some of which had only that day been received) when his vehicle was struck by a car at Olive and St. John streets, near the Station. Kaiser suffered a head injury and was hospitalized. Another driver completed the mission and got the supplies back to the scene of the blaze.

As firemen continued to be affected by the poisonous smoke and fumes, first aid stations were set up at W. T. Grant's Store across the street, and at the rear of the nearby postoffice. Postal employes aided medical crews and other volunteers in applying first aid. Two public ambulances and the department's own unit were at the scene to remove injured men to hospitals. The fire, coming as it did just before the 6:00 P.M. change of shifts in the department, brought a heavy manpower response and some of these men, unable to immediately secure masks, suffered smoke poisoning. None proved seriously injured, however.

Engine 12, the first due company, returned to quarters at 3:13 A.M.

The editors are indebted to Chief Paul P. Heinz for the data upon which this report is based.

Smoking Charged with Death of Five

Mr. and Mrs. Chester Thornton and their six children lived in a one-story frame house with tarpaper roof in Worcester, Mass. But they had television and liked it. Mrs. Thornton also liked to smoke cigarettes, sometimes in bed.

On July 28 the family stayed up late watching the television shows. Before going to sleep Mrs. Thornton smoked a cigarette. Some time later she awoke to find the pillow smoking, and the house filled with smoke.

Mrs. Thornton and a daughter Judith, 15, stamped on the pillow, threw water on it and flung open windows to clear out the smoke. Mr. Thorton awoke and told his wife, "That's what you get for falling asleep while smoking." And the family went back to bed, certain the fire was extinguished.

When they woke up again, perhaps two hours later, the flimsy frame home was ablaze. Firemen called it a rekindle. To the Thorntons it spelled death—to Mrs. Thornton, Joyce, 15, Richard F., 9, Elaine, 7, and John, 3.

Mrs. Thornton might have escaped, as did Mr. Thornton, Judith, 15, a twin of Joyce, and Stephen, 13, but she and Joyce returned to try to save her flock, and perished.

Midway Makes Smoky 2-Alarm Fire

A spectacular two-alarm fire destroyed a large section of the midway at municipally-owned Pleasure Beach amusement park, Bridgeport, Conn., on June 7. Damage to the Penny Arcade, King's Castle, and 12 concession stands was estimated by fire officials at more than $75,000.

This section of the east side of the midway was swept by flames, which raged out of control 45 minutes. The roller coaster and rifle shooting gallery concession also were damaged. Fred Schwarzkopf, Bridgeport's city clerk, said damage to the city-owned buildings was estimated at $20,000. Approximately 85 per cent of this loss is covered by commercial insurance and the remainder by a self-insurance fund which the city maintains. Concession owners estimated damage to contents in their establishments at more than $55,000.

Although hampered by thick smoke and a fire which had gained rapid headway, firefighters confined the blaze to the area on the east side of the midway, north of the roller coaster, preventing the fire from reaching the remainder of the concessions and the ballroom, largest structure in the resort.

Three firefighters were injured, one seriously, and a concession operator also was hurt fighting the fire. Fire Lieut. Raymond E. Golden, Squad 5, was hospitalized for a head injury received when, fire officials said, he was struck by a wooden plank. Firefighter Morse Fischer received bruises when struck by falling wood, and Firefighter Ralph DeNitto was made ill by smoke poisoning. Asst. Chief Arthur T. Platt, acting Chief of Department, was in charge of fire operations.

The first alarm was sounded at 11:24 A.M.; the second was ordered 13 minutes later; recall was at 12:00 P.M.

TOM MAGNER.

Pacific Coast's Chiefs Will Attend Two Conventions

Members of the Pacific Coast Inter-Mountain Association of Fire Chiefs will make an occasion of their trip to the forthcoming Convention of the International Association of Fire Chiefs, scheduled for Toronto, September 15-18 next.

Following their annual convention in Tacoma, September 7-10, they will leave via the Milwaukee Railroad at 2:00 P.M. on the 11th, arriving in Chicago at 1:45 P.M. on the 13th. They will remain in that city over night to visit the Underwriters' Laboratories on Monday morning, after which the delegation will depart on the 14th at 8:00 P.M. for Toronto and the I.A.F.C. They are due in that city at 7:00 A.M. on the 15th.

Radio Helps Safety-Slow-Down

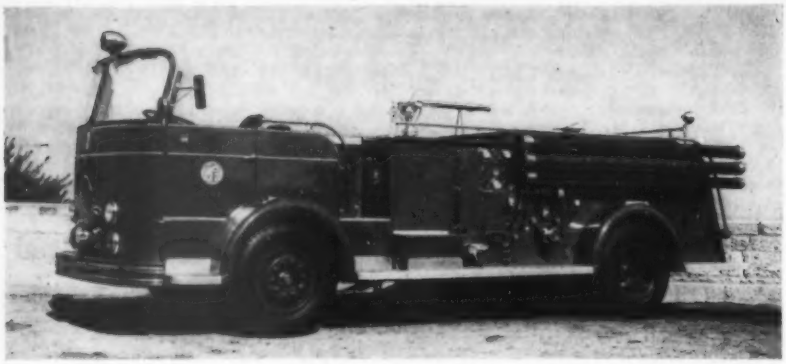
In New York City, since the fire department became 100% radio-equipped, motorists have been wondering about the red apparatus stopping sedately at red traffic lights.

Now it's explained by a fire department spokesman. Those vehicles which stop at the lights are returning from a fire call, he said. They used to hurry back like they were going to a fire because they had to get back into service to be ready for another call.

Now that the mobile apparatus is equipped with two-way radio the drivers are under strict orders not to speed stationward except under broadcast orders.

Photo by Frank Decerbo, Bridgeport Post

Thick black smoke rose over Pleasure Beach amusement park, Bridgeport, Conn., on June 7, when the midway was swept by fire of undetermined origin causing damage to buildings and contents estimated at $75,000. The fire fighters and a concession operator were injured fighting the two-alarm blaze.



Official L.A.F.D. Photo

One of the new pumpers recently purchased by the Los Angeles Fire Department.

Los Angeles Buys Apparatus

The Los Angeles Fire Department recently bought 14 new pieces of apparatus, including five triple combination pumpers and nine pressure hose wagons. The equipment was being delivered in groups by the Crown Coach and Body Corp., 2500 E. 12th St., Los Angeles.

The triple combinations are powered by a 295 horsepower Hall-Scott engine and are equipped with a 1250 gallon Class A Waterous pump. They carry 350 gallon water tanks. Hose capacities include 1200 feet of 2½-inch in the regular backload and 200 feet of 1½-inch line in other bins. The new rigs have power steering.

The hose wagons also are powered with 295 horsepower Hall-Scott engines and contain two Centrifog pumps to deliver water from the tanks at 150 gallons per minute from each. The tanks are 400 gallon capacity. They have the same hose carrying capacity plus three cross bins, one containing 500 feet of one-inch hose and the other two containing 250 feet of 1½-inch line.

The units are 23½ feet overall length and have a 156-inch wheelbase, and are said to be able to make a complete turn inside a 55-foot diameter circle.

PAUL C. DITZEL

Flower Shipment Ban Eased

Five major airlines operating out of San Francisco on July 15 embargoed all air shipments of flowers originating on the West Coast after discovery of two mysterious fires in flower shipments.

Both fires were from the same grower. One fire occurred while the cargo was in flight, the other on its way to the airport in a truck.

Preliminary investigation led to the belief the fires might have been caused by spray chemicals or cooling agents. On the understanding that shippers would not use preservative sprays, which have been known to cause spontaneous ignition, the airlines began lifting their embargo to the East from the Bay area. Commercial shippers stood to lose $50,000 a day if the fresh blooms could not be handled by air.

Fire Radio for San Joaquin County

In June, the initial steps were taken by the San Joaquin County Board of Supervisors to establish a County Fire Communications Commission to centralize all fire calls and make the network available for civil defense use.

Application for license and radio installation has been sent the FCC. The expense would be borne by the districts which adopt the radio warning system.

At the outset, a 60-watt transmitter would be established in the participating district's fire station which will permit three-way communications. Districts already agreeing to use the radio are: Mokelumne, Tuxedo County Club, Liberty, Waterloo, Morado, Woodbridge, Lincoln, East Side, French Camp-McKinley and Tracy.

Herb Buck, Fire Chief of the Liberty Fire District and president of the County Rural Fire District Directors' Association, requested the Board to set up the Communications Commission.

UHF Band Extended for Public Safety Radio

New mobile two-way radio communications equipment for use in the UHF (ultra high frequency) band, which opens up uncrowded radio channels and may make possible a major extension of mobile radio service for public safety, and other users, was announced in July by the RCA Victor Division.

The new equipment provides for the use of as many as 80 new channels of communication in the 450-470 megacycle portion of the spectrum by such radio segments as fire and police departments, taxicab operators, industrial users, and domestic public services.

FCC Safety Services Funds Boosted

It is reported that Congress has cleared for President Eisenhower's signature an independent offices appropriations bill giving the FCC (Federal Communications Commission) $7,400,000, or $300,000 more than recommended in the Eisenhower budget, "with substantial increases for safety and special services and television activities."

For safety and special services (which include fire radio) the joint House-Senate conference endorsed the House-approved figure of $809,000, a boost of more than $240,000 over the fiscal 1953 expenditures of $567,000, and more than $200,000 above the Eisenhower budget recommendation of $596,000, for fiscal 1953, which began July 1.

Fire Apparatus Manufacturers Association Meets in Middleboro, Mass.

The Fire Apparatus Manufacturers Association, Inc. (formerly the Motor Fire Apparatus Manufacturers Association), held its annual meeting on July 16 and 17 in Middleboro, Mass. The new President is Fred A. Waterous of the Waterous Company, St. Paul, Minn.; Vice-President is Lester W. Young, Young Fire Equipment Corporation, Buffalo, N. Y., and the Directors are: R. B. Sargent, Hale Fire Pump Company; Richard S. Howe, Howe Fire Apparatus Company, Anderson, Ind.; Ernest Maxim, Maxim Motor Company, Middleboro, Mass.; P. E. Van Pelt, P. E. Van Pelt, Inc., Oakdale, Cal.; Joseph G. Grossman, Ward LaFrance Truck Corporation, Elmira, N. Y., and Mr. Waterous. E. L. Koepenick was elected Secretary-Treasurer.

In the photo at the left (front row) are: Leighton Maxim, Maxim Motors; Fred Waterous, Waterous Co.; Jack Mosser, Ward LaFrance Truck Corp.; R. B. Sargent, Hale Fire Pump Corp.; Joseph Grossman, Ward LaFrance Truck Corp.; Clarence Brumbaugh, Brumbaugh Body Works; Ernest Maxim, Maxim Motors; Edward L. Koepenick, Secretary-Treasurer of the association, and Richard Howe, Howe Fire Apparatus Company. In the back row are: Fred W. Beardslee, Mack Motor Truck Corp.; Charles Trautwein, Sr., Trautwein's, Inc.; Joseph Whitcomb, Maxim Motors; Hermon Maynard, A. F. Robinson & Co.; Richard Swift, Trautwein's, Inc.; James B. Slaughter, Fire Master Corp.; P. E. Van Pelt, P. E. Van Pelt, Inc.; Walter Walkenhorst, Ahrens-Fox; Victor Zabek, Zabek Motors; Royce E. Wardrep, Ahrens-Fox; Mr. Partridge, Hale Fire Pump Corp.; Lester W. Young, Young Fire Equipment Corp.; R. C. Harwick, Harwick Mfg. Co.; James O. Binford, American-La-France-Foamite Corp.; Eric Throsel, Maxim Motors, and Charles Trautwein, Jr., of Trautwein's, Inc.

In the photo at the right James O. Binford is presenting a gavel and block to Ernest Maxim. The gavel and block were made by the first employee of the Maxim Motor Company from an apple tree from Mr. Maxim's own orchard. From left to right are E. L. Koepenick, Ernest Maxim, J. O. Binford and Fred A. Waterous.

figured in years of service,

EUREKA
MULTIPLE-WOVEN
FIRE HOSE

costs least...gives most!

Fire departments of cities like Willimantic, Connecticut, that keep accurate records of every length of hose, can show you Eureka *Multiple-Woven* Hose purchased more than 25 years ago *still giving dependable service.*

Suppose Willimantic had "saved" 50% of its initial investment by purchasing minimum priced hose. Assuming an average service life of four years for such hose, the department would have required six purchases during the past 25 years... at a total cost at least three times greater than Eureka Multiple-Woven. But, considering price increases in the "cheaper" hose during the years, such a short-sighted policy might easily have cost *four or five times* the original cost of Eureka *Multiple-Woven.*

Eureka makes and sells all grades of fire hose. But, for real, long-range economy—with a bonus of unexcelled dependability and safety—we recommend Eureka 3- or 4-ply *Multiple-Woven*, the unique, long-wearing hose with the jacket whose plies are simultaneously woven *and interwoven* into a homogeneous covering that leaves no room between plies for water, dirt or mildew. **Only Eureka makes such a hose!** Eureka developed and built the complicated looms that circular-weave the jacket... and they have never been successfully duplicated! Write for folder describing all the unique features of this great hose.

EUREKA

"For greater protection to life and property"

EUREKA FIRE HOSE

Since 1875, Specialists in Manufacturing Circular-Woven Cotton Rubber-Lined Fire Hose

195 Hudson Street • New York 13, N. Y.

Division of United States Rubber Company

Short Cuts and Gadgets

TO FOIL THE HYDRANT OPENER

Some of our readers may raise a quizzical eyebrow over this item, taken from the Elizabeth, N. J., press, but inasmuch as the Brothers from that city think they've got something, we pass it along for what it may be worth. Here's the item as contributed:

HYDRANT OPENERS FOILED—Device Protects Fire Plugs on Hot Days in Elizabeth. Elizabeth, N. J., July 11.—The Elizabeth Fire Department thinks it has solved a problem that confronts many municipalities during summer hot spells—unauthorized opening of fire hydrants.

Protective nuts have been installed on the valve sections of may plugs in the city, Acting Chief Lawrence M. Mayson disclosed today. Ordinary Stillson wrenches, used on the unprotected valve, cannot turn the special device, he explained. In addition, a police and hydrant department patrol has been set up.

After a dozen incidents of hydrant openings this summer the fire department noted none in the last week.

SANDERS ARE NO "GADGETS"

Last April we published an ittybit item headed "Should Fire Trucks Have Sanders," in which we told about an installation of an electrically operated sander on the pumper of the Hyattstown, Md., Fire Department.

Comes now the following communication from Capt. Andrew T. Campbell, Jr., Valhalla Fire Company No. 1, Valhalla Fire Department, Valhalla, N. Y.

"Our Department's two (2) 1953 Maxims are equipped with electrically operated sanders, but we don't feel that they are more than mere 'useful gadgets.' When you have trouble getting traction on an icy winter road, when chains just don't seem to help, equipment that will get your truck moving without calling for outside aid is more than a gadget.

"The 75-ft. Maxim Aerial and its partner, a 1,000 G.P.M. Maxim Pumper, also came equipped with other things that some people might call 'useful gadgets'; such as 'power steering,' 'easy-eye (nonglare) glass'; 'safety tubes in front tires'; 'radio,' and so on.

"We feel that these completely equipped trucks (not completely gadgetted), when supplemented by our older Maxim 1,000 G.P.M. Pumper and Maxim Patrol, will give our community—and when called to assist, our neighbors—better and more effective service because of the before-mentioned refinements."

According to the dictionary, Valhalla is the resting place of the illustrious dead. Actually, this village boasts one of the nation's most beautiful burial places. But when it comes to fire protection, there's nothing "dead" about the Valhalla Fire Department!

TELEPHONES OUTSIDE CLOSED STATIONS

We were intrigued a bit by a small item in the Annual Report of the Kent Fire Brigade, Kent County, Eng.

This recounted that last March fire telephone boxes were installed outside forty part-time Fire Stations, "by means of which members of the public are able to pass fire calls direct to the whole-time manned Station."

N. Y. STATE INSTRUCTOR SCORES ON IMPROVING LADDER HOIST PRACTICE

We have swiped this from the informative little house organ "Siren" published by the Division of Safety, Bureau of Fire, New York State. In it, Lieut. Sylvester Delaney, Albany County (N. Y.) Fire Instructor, offers a proposal to improve a fire service operation and provide safer working conditions having to do with hoisting ladders. We quote:

"When taking ladder to the roof of a building via hose or ladder roller and roof rope, it is customary when ladder is ready to be brought in on the roof to have two men on edge of roof to 'break' ladder over edge. This is at best a dangerous position due to weight these men must put into their efforts. Under wet or icy conditions, their position is even more precarious and one or both men may be thrown to the street.

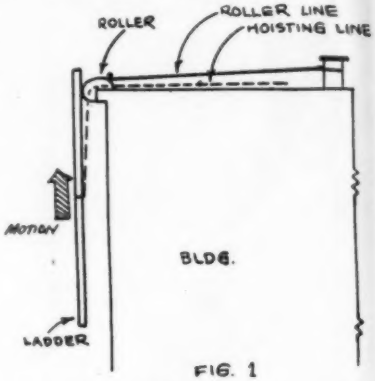


FIG. 1

"To lessen this danger, and sometimes it can be altogether eliminated, why not, when ladder reaches position in Fig. 1, take free end of hoisting line which is laying on the roof, bring it forward and tie it around the top rung of the ladder. Ladder is then raised to position for 'breaking' as in Fig. 2. Man standing at position (A) Fig. 2, pulling in line (B), can be of great assistance to leverage he can exert. If two men are available for this position, it is possible the ladder can be 'broken' without further aid."

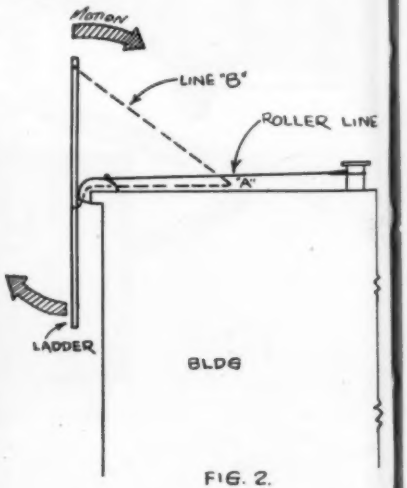


FIG. 2.

The accompanying diagrams are also taken from "Siren."

What do our readers think of this? One of our staff has been trying to accomplish about the same thing using a long hook but this isn't always available on the roof when wanted. Any other ideas of this nature to improve ladder practice?

"Cat" Helps Turn Off the Gas

A flaming gas well at Pampa, Texas, raged out of control for 13 hours early in May, "blowing" an estimated 10 to 12 million cubic feet of natural gas per hour. Firemen finally mastered the rebellious blaze by the simple expedient of forming an embankment all around the flaming outlet, and then filling the basin so formed with water. Picture shows caterpillar bulldozer operator S. L. McClelland "dozing" up earth dikes.

New RCA Fleetfone Station Consolette

Engineered

to save installation and maintenance time

– RCA's

performance-proved 2-way radio "DESK STATION"

Now . . . a 60-watt transmitter plus receiver in a single case. Saves space. Simplifies operation. Makes maintenance easier. Read how . . .

Good news for 2-way radio users! A "desk station" you can install 'most anywhere . . . on a desk, a table, or even on a shelf against the wall.

60-watt transmitter exceeds FCC and RTMA requirements

Precision controlled by RCA ovenless crystal unit, with spurious emission reduced to minimum. Two-frequency or three-frequency transmission possible. Very economical to operate. Most tubes work at less than 70% capacity. Result: longer tube life, less maintenance. Uses standard tubes.

Receiver gives adjacent channel selectivity

Exceptionally sharp selectivity. Circuits specially designed to give clear reception from mobile transmitters, even in high-interference areas. Two-frequency reception possible by adding another frequency kit. Receiver uses only 5 tube types. Allows minimum spare-tube stock.

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Sloping front panel, easy access to controls. Built-in direct reading electric clock. Transmitter-receiver chassis slides out at the top for ready access.

Get full details . . . mail coupon today

Find out all about this great new "desk station" that gives you full-power performance from a single package. All backed up by RCA . . . world leader in radio. Service available from RCA Service Company if desired.

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Also, please send me information on use of 2-way radio in industry checked below:

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RCA

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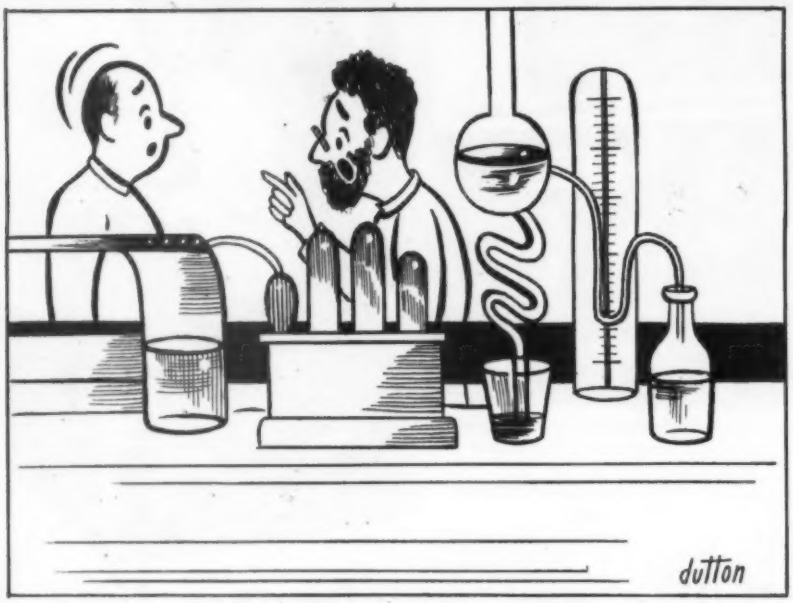
FALSE ALARMS



"Before I start this experiment were you ever a volunteer fireman?"

Travel

They were sitting in the swing in the moonlight. For three minutes there had been silence.

"Suppose you had money," she said, "What would you do?"

He threw out his chest. "Why, I'd travel."

He felt her warm, young hand slide into his. When he looked up she was gone. . . . In his hand was a nickel.

"The best thing for you to do is give up drinking and smoking, go to bed early, and get up early."

"I don't deserve the best, Doc. What's the second best?"

"Higgins," said the restaurant manager to a waiter, "why did that man from table six leave so suddenly?"

"Well, sir," said the waiter, "he sat down and asked for sausages, and I told him we were out of them, but that if he'd wait a few minutes I'd get the cook to make some."

"Well," asked the manager, "what then?"

"I went to the kitchen," the waiter continued, "and stepped on the dog's tail by mistake, and of course it yelped. And suddenly the man got up and left."

As her daddy's car gradually emerged from the gorgeous scenery of the Garden of the Gods, a little 5-year-old girl said: "Mother, is this where God is buried?"

Policeman: Did you see an inebriate pass here?"

Native: "Nope. Been settin' here all day and ain't nothin' passed but one man and he wuz drunk."

Hillbilly to neighbor: "They tell me your wife makes moonshine whiskey."

Neighbor: "Yes, she does, and I am awful ashamed of her, but with all her faults I love her still."

The new personnel manager of a company became promptly alert when an apparently confused applicant entered his office. Presenting his company's application blank, he persuaded the visitor to complete it despite the man's stubborn reluctance.

Then the manager leaned back in his chair to read it.

"Hmm," he commented. "You've had quite a varied work experience. What spot in our organization do you think you could fill?"

"A secluded one, I'd say, temporarily."

"Oh," said the personnel man, "I had hoped you were looking for a steady job."

"No, sir," said the man, wincing, "I was just looking for the men's room."

Romance

"Pa, tell me how you proposed to Ma," requested the young hopeful.

"Well, son, as I remember it was like this. We were sitting on the sofa one night at her house and she leaned over and whispered in my ear. I said, 'the devil you are!' Next day we were married."

Heir Mail

Culling the month's correspondence, Wolf Magazine of Letters discovered this message received by a clothing store from a customer who had ordered a maternity dress.

Dear Mr. Store Sir:

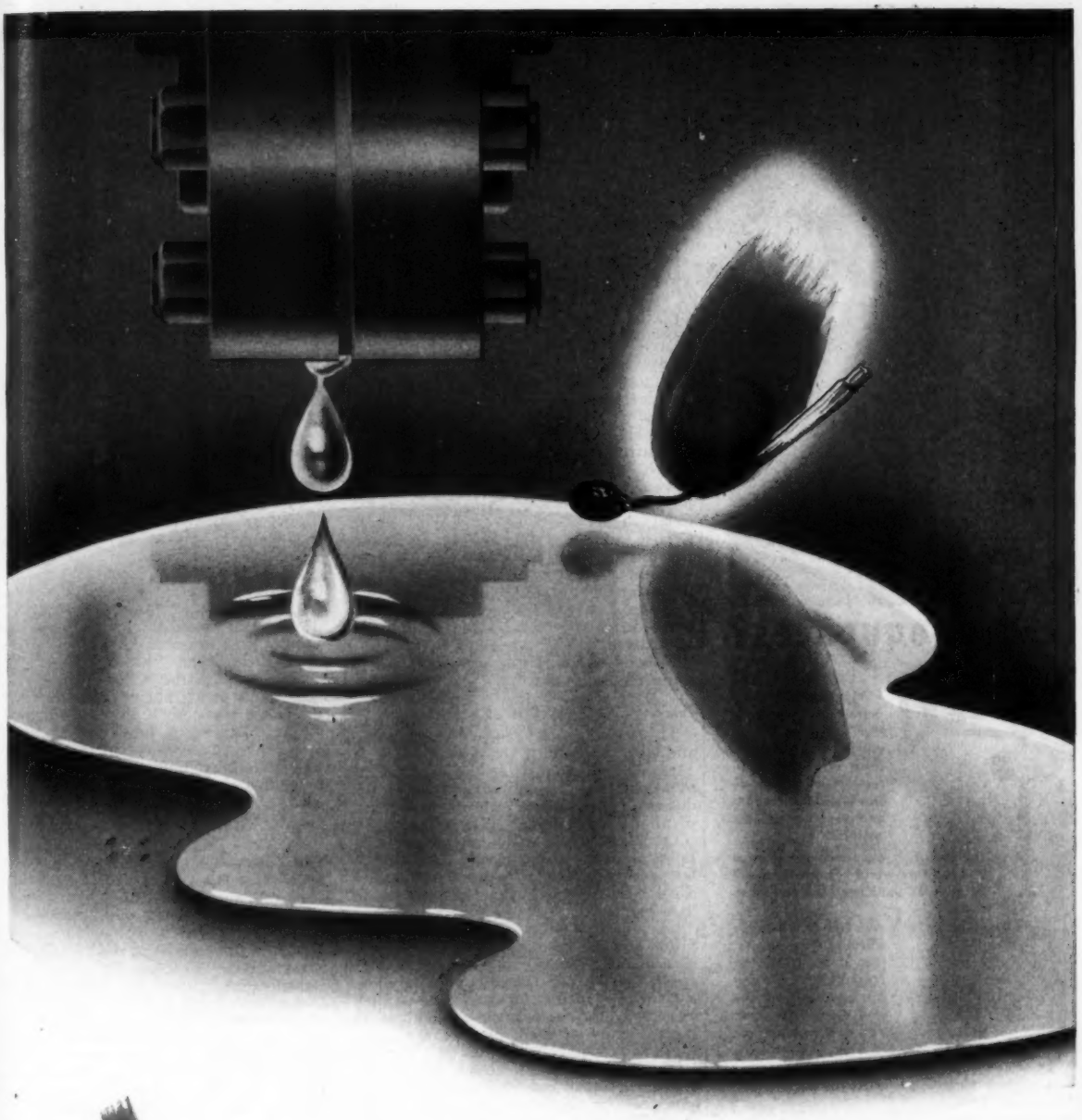
Please cansel that order for my dress size 44 which you was going to deeliver to me. My deelivery was faster than yours.

Respectively,
Mrs. R. S.

Albert: "So you don't sing in the choir any more?"

Filbert: "No—I missed one Sunday, and everybody said how much better the organ sounded since it was repaired."

"Say, Bud, the least you can do is stop the meter!"



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A Civilian Defense warning system is not just a thing of the present, it is a municipal necessity for the future, as important as your lighting or water system. Don't put off your preparations for an inevitable need. Any delay is on borrowed time; act now while Government funds are available to help you.

The FEDERAL THUNDERBOLT Siren is still the preponderant choice of American cities because of its super sound output, its extreme flexibility and its comparatively inexpensive adaptability in installation.

This great and radically different audible signal, electrically powered, has built a reputation that is unapproached. It is now also available powered by a gasoline engine to provide a simple but dependable installation in certain areas which are not entirely satisfactory for electric operation.

The new gas powered model is by far the most dependable internal combustion powered signal that has ever been put on the market. Literature describing its many advantages will be available shortly; write today requesting it.

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The WATCH DESK

Overhauling the firemanic news of the day

by RICHARD WOOLLEY

Will Truck Tip—The $3,000 Question

Nobody seems to know just who first popped the question, but everybody in Huntington, W. Va., seems to know the answer—now.

The question came up as the city prepared to buy a second ladder truck for $35,000, and it was "will a fire truck tip over?"

The answer proved to be "yes," Huntington's big ladder truck with the 100-foot extension ladder will indeed tip over—under certain conditions.

It cost about $3,000 to find that answer, according to the wayward press. It all came about this way—

Confronted with the question, for which nobody seemed to have the answer, the firemen ran out their "big boy" to Ritter Park. And while Mayor Cecil Thompson, Fire Chief Floyd Crouse and some councilmen watched, the extension ladder was pointed outward at a 30-degree angle, and the ladder extended out to 90 feet.

Down came the ladder and up went one side of the truck. Estimated damage (according to press reports), $3,000.

Nobody was injured but rumor hath it some feelings were hurt.

* * *

This Must Be Some Sort of a Record

This one comes from "Anonymous" and has to do with the fire fighters of Mt. Vernon, Ill., who, the local folks opine, have added another service to the duties (?) of firemen who already have plenty of X-curricular tasks on hand.

On June 5, last, the Brothers administered artificial respiration to 37 chinchillas, and what's more, saved the entire 37—for later dying that milady might live—in style.

The furry rodents, reported valued at $10,000 by the owner, John Loss (what's in a name), were trapped by fire that swept their air-conditioned building. Firemen rushed into the smoke-filled structure and carried the chinchillas to safety, many of them limp as wet dishrags, and as unconscious.

Then the lads set about giving the victims artificial respiration. Using oxygen, and the orthodox respiration methods, they were soon brought around. Next day, chinchilla farmer Loss reported the animals were "doing well," although three were still sick from too much smoke.

* * *

To Paraphrase "Red" Buttons—

Strange things are happening—in the fire service, as well as "Red" Button's song hit. And this has to do with a fire engine that "blew up" according to the wayward press.

The city and fire department and crew involved shall be nameless. But we can vouch for the story, which went like this:

One fireman was injured in a freak accident . . . when the transmission of a fire engine apparently blew up while at the scene of a brush fire. Fireman ——— was treated at ——— Hospital for lacerations and contusions of the left ankle and knee sustained when he was struck by flying pieces of the transmission. He remained on duty.

According to police, the 1,500-gallon pumper was dispatched at 4:12 P. M. from Engine 3 to a brush fire in command of Lieut.———. The engine was parked at the south curb with the motor and pump running while firemen were extinguishing the blaze. Fireman——— went back to the engine to inspect the pump and when he was about four feet away there was an explosion and he was hit by the flying metal.

The engine jumped over a stone placed in front of its right rear wheel and started to roll, driverless, down the inclined roadway about 130 feet east, when it jumped the north curb and crossed the lawn at the home of———.

The moving engine was finally halted when it hit and uprooted a white birch on the lawn. The front of the engine was smashed by the impact and a hole was blown in the floor of the cab by the explosion, the cause of which has not been determined.

Chief G——— pointed this accident out as one of the possible consequences of a minor brush fire. . . . "I'd like to prevail on parents of children, and youth organizations, to help prevent these little blazes," he said.

P.S.—Later, the Chief told our enquiring reporter that no doubt what had happened was that a piece of housing or a nut dropped or flew into the gears. It wasn't exactly an explosion, he said, but it sounded like it—and it did cause extensive damage to the 12-year-old-pumper, as well as doing Fireman K——— no good at all.

* * *

Boots, Boots, Boots, Walking Up and Down—to a Fire

If the automobile of Frank Lettieri, of Corona, Queens, was damaged the other day, when it caught fire from a short circuit while parked in Hudson Street, near Broome (Manhattan), it was not the fault of the New York Fire Department, said the news account.

Mr. Lettieri turned in the alarm when he found his car aflre, and in a matter of seconds the Brothers were en route. But as the apparatus turned into Hudson street, the men found it so heavily jammed with traffic from near-by Holland Tunnel they had to abandon their trucks and run two blocks to the scene, carrying extinguishers and tools by hand.

Once there, they "nuffed and puffed" out the fire in a few moments.

Our contributor inquires "how about equipping all units with scooters?"

* * *

Off the Tape

Members of Ladder 15, Philadelphia Fire Bureau, sped to the rescue of a householder who had climbed a ladder to his roof to repair a skylight—and the ladder had fallen to the ground behind him. His wife called the Brothers for help. The man they rescued was a fireman with Ladder 53, who had been doing a bit of 'home work' on his day off. (Thanks, Wilson Davis). . . . In Texarkana, Tex., a false alarm which firemen answered proved in one respect to be the real thing. A pair of falsies caught fire while being dried in a tumbling machine at a laundry. (Thanks to

At this very moment, hovering over every plant, fire is ready to swoop down on storage spaces, electrical generating equipment, record vaults. But like a bird of prey, it casts a warning shadow... IF there's a KIDDE Industrial Smoke Detector.

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Walter Kidde & Company of Canada, Ltd., Montreal, P. Q.

the many clippers who shot this'un in). . . . Here's a "hot hare" story from W. A. MacDonnell. Out Seymour, Ind., way at least one of the rash of brush fires was started by a rabbit. Local residents reported seeing a bunny, fur aflame, running through a field, setting dry grass ablaze. Bunny was de-furred? . . . In New Haven, the lads sped to the Dew Packing Co., on Oak street. Smoke was pouring out of windows. But it was O.K. Workmen were just preparing smoked hams and had the windows open, the weather being wot it was. (Thanks, George Warren). . . . Down Houston-way, Deputy Fire Chief C. A. Middlekauf reported that a chicken walked into a three-room house, flew up on a table, knocked off two burning candles, which set the house afire and destroyed it (Thanks, Edward Sprangers). . . . From another Texas city, Fort Worth, comes this bit, by R. H. Davidson, Nashville. Harvey Millican has been in the fire fighting business 25 years but only just had his first ride on a fire truck. Millican is assistant chief at a Fort Worth packing plant, and rode the city apparatus when it went to inspect the plant's fire fighting facilities. Plant firemen don't own a truck; instead they run to strategically located hose stations. Our contrib' adds: "And I thought I had troubles when, for two years, I failed to connect with a run on Ladder 2." . . . Sherman Eighmey, assistant fire chief of Seneca Falls, N. Y., left some pig hocks cooking in a kettle when he went to work. His teen-age son had instructions to turn off the heat after school. Well, neighbors turned in an alarm when they saw smoke coming from the house. Eighmey and other firemen found the hocks smouldering in a dry kettle. His son blamed it all on a game. (Thanks, Raymond Lee). . . . A garage and 20 rabbits burned in Fremont, Ohio in a fire believed to be the first on record started by a dog. The old structure, and the rabbits it housed, went up when a dog, tethered to a long chain, dragged it through a leaf fire and carried burning particles into the building, firing straw. (Thanks, Irving Kritzell). . . . Things went a bit haywire down in Homestead, Fla., when a young lady tried to make some floor polish by boiling gasoline and wax on a stove. The result was a fire alarm which unfortunately came so near the noon fire signal that everyone mistook the signal and changed their clocks. (Thanks, R. A. Young).

* * *

Nude Departure in Rescues, We Calls It!

Last June, a 27-year-old Enid, Okla, housewife, who sleep-walks at midnight when the moon is full, was found nude, picking leaves 20 feet up in a tree.

Police reported that the husband, employe of a utility company, found his wife missing from her bed shortly after midnight. He searched the neighborhood but was unable to find her. Alarmed, he called police who joined in the search. Finally, she was spotted in the tree as a full moon illuminated the weird scene.

The woman, still asleep, was nude and picking leaves while she balanced on a limb. In this precarious situation the fire department was called and rescuers, working silently so she would not be startled, stretched a life net under the tree. Then the husband climbed the tree, carefully wrapped his shirt around his unclad wife and gently awakened her. She fell into the net and he followed, grabbing her before she could run off and hurt herself.

Deponent sayeth not what the net holders and laddermen did at this stage. The husband said later that his wife was extremely nervous but none the worse for her experience. He said he would watch her a little closer come the full o' the moon. Meanwhile 'tis said the Brothers are awaiting another stand-by call.

Thanks the many who sent in this item.

* * *

Mebbe There's a Moral Hidden Away in This?

Firemen made haste slowly in handling this incident, so we're told by 'Contrib' R. W. Joyner, of Dallas.

Even after they walked to the fire and waited for the key to get in, McAllen, Texas, firemen were able to extinguish the "blaze" before damage was done, said the press account.

Proctor Hardy, it went on, employe of a rival store on a Wednesday night spotted smoke coming from a smoldering blanket in the display window of Terry Farris' Department Store. Heat from the display lamp caused the smoke.

Hardy walked to the fire station and reported the smoke. Firemen walked to the scene. Then, unable to get a key to get in, they telephoned a radio station and asked it to broadcast an appeal for a store official to bring a key.

Two McAllen men and an Edinburg store official rushed to the store. They unlocked the door, the firemen walked in, and stamped out the blanket. Then, no doubt they stamped out of the store. C'est fini. Nice of the fire to wait, wasn't it!

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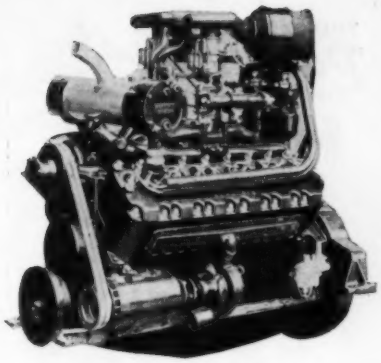

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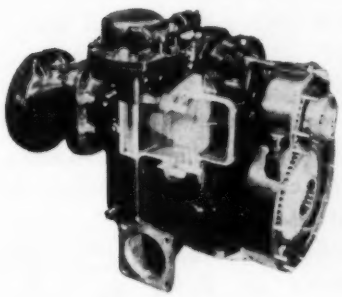

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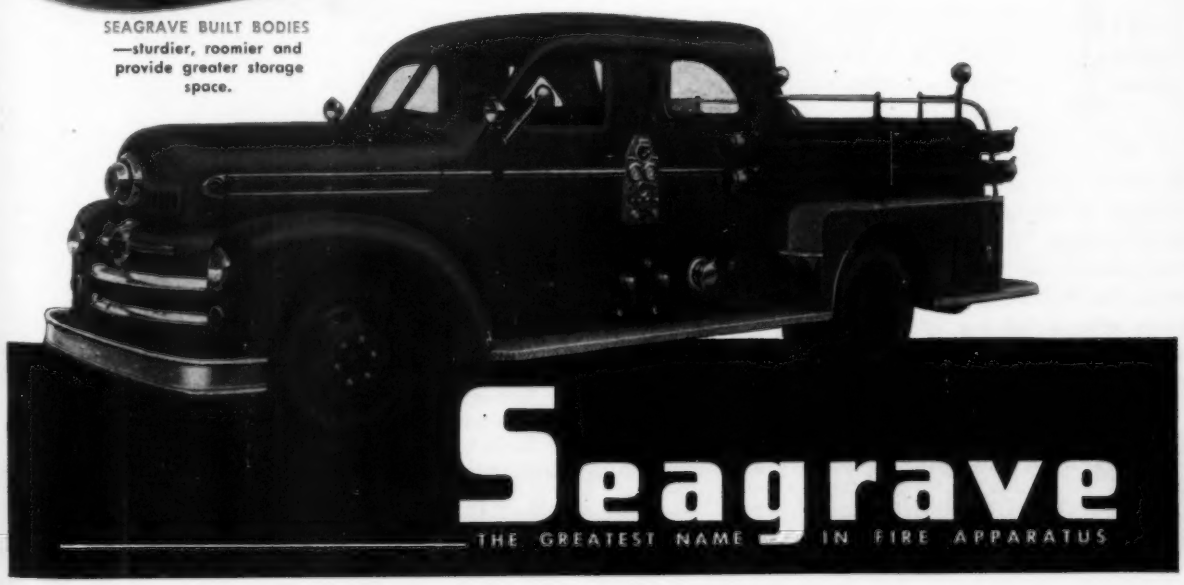

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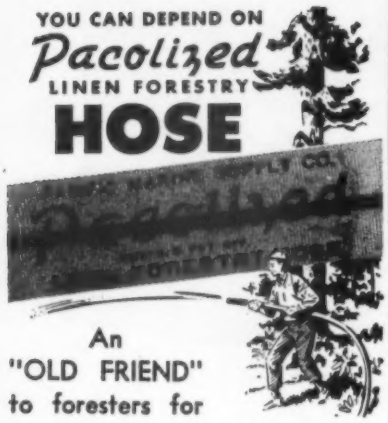

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For Practical Discussion of Current Fire Department and Fire Management Problems

OIL HEATERS — DEFINITELY A HAZARD!

ONE thing upon which chiefs queried concerning oil heating devices apparently agree is that they constitute a definite fire and explosion hazard.

At least that is the conclusion to be reached after review of the first batch of replies to the Round Table question asked in the last issue of FIRE ENGINEERING.

From some of the replies it is evident that respondents may confuse the portable type heaters, and oil space heaters, with oil burners and heating devices which are part of the household heating system, or with "cooking stoves." Nevertheless, sufficient replies have been received to permit the following observations.

The first is that as the National Board of Fire Underwriters and the National Fire Protection say: "The use of any oil-burning portable heating device involves an element of hazard, and their use in combustible locations should be discouraged."

Oil stoves or heaters have caused many deaths and injuries, and much destruction of property by fire. The heaviest losses naturally are in the areas and occupational groups where such appliances are widely used for economical reasons or where gas or electrical heating may not be available. Losses are heavy in rural areas and in the poorer sections of cities, where occupancies are overcrowded and conveniences limited.

Spring and fall appear to be the period of heaviest losses in some areas. Deaths are not necessarily from fire; many people are killed by lack of ventilation or poor combustion of the heating unit which consumes the oxygen in the air.

One odd factor disclosed by several respondents is the part the telephone plays in some accidents. The oil in the heater or stove is turned on. The telephone rings. The householder answers it, and a long conversation ensues. The result—a flooded pot. When the match is lit, an explosion occurs.

The small portable type heaters apparently offer greatest hazard, especially in confined, combustible spaces, and where they can be knocked over. They have caused a number of serious trailer fires.

As to fire department control over use and maintenance of these heating devices, the majority of respondents state they have no control. Many cities and communities regulate commercial and other oil burner installations but not oil heaters.

There is general agreement on the question of the means of reducing these hazards. Inasmuch as most such fires are caused by ignorance, and carelessness, the first step is to educate and inform users of such appliances. The next is to increase inspections and checkup, and where no suitable laws or ordinances exist to encourage, to see that suitable regulations are promulgated to outlaw inferior installation and maintenance. It is agreed there must be more rigid regulations—and, where they presently exist—to see there is more stringent enforcement of them.

Some chiefs believe manufacturers and merchandisers of such equipment can help by improving quality, increasing safety measures and urging proper use and maintenance. Many believe, also, that fire departments themselves should wage active educational campaigns, issuing warnings concerning improper use, and enlisting the cooperative efforts of schools, service clubs and others, as well as merchants.

Readers are invited to contribute this discussion which will be continued in the August issue. Address replies to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N.Y.

Discussion of the Topic

Horace S. Jose, Chief, South Portland, Me.: We have had no fatalities in this city from oil burners.

Our city ordinance calls for "labeled" equipment, all installations to conform with Underwriters' specifications. Storage of flammable liquids above first floor is prohibited.

I feel we have not had any of these fires because of the availability of honest and competent oil burner service men in this city. Fatal fires seem to occur in rural areas where such service is likely to be unavailable.

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For complete information on our full line of firemen's protective clothing, see your Midwestern dealer. A letter to the factory will also bring you literature and material samples for your inspection.

NONE GENUINE WITHOUT THIS TRADE MARK

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Obviously, many rural burners are purchased by mail and amateur installations result. Amateur oil burner installations like amateur wiring can often be costly.

The most effective way of reducing the number of these fires is by continued education. Several of our fire inspectors are qualified oil burner men thanks to local A.P.I. course held annually. Continued promotion of idea among citizens that periodic check-up of oil burner equipment by competent service men is desirable. Continued inspection by the department of domestic heating equipment is necessary.

F. M. Whalen, Chief, Batavia, N.Y.: We have had no fatalities from oil stoves, but have had a few calls for fire originating in them. We have no control in private homes.

The press and radio can do much to discourage this type of fire. A few days after an oil heater or cook stove explosion or fire, it is very easy to convince users to dispose of them. This advice is usually heeded.

Columbus J. Pasetti, Chief, Westerly, R. I.: Although we have had no fatalities from this type of fire, it is more good fortune than foresight. We have had quite a number of calls for fires from this source and feel that the number could be materially reduced by some method of checking for proper installation and also the storage of oil, over which at the present time the fire department has no control. Lack of knowledge on the part of the people who set up their own heating unit and carelessness in lighting and failure to keep an eye on them while burning seem to be our biggest headache. Also very few people realize this particular type of stove will soon use up the oxygen in a room with disastrous results. I try to discourage this type of heating if at all possible, at least until suitable legislation is passed to control them.

William R. Willis, Chief, Bellaire, Tex.: We have had no deaths due to this type of heating appliance.

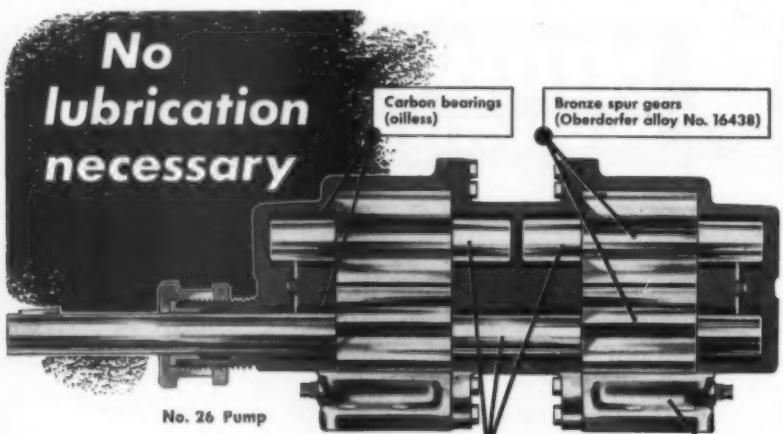
The fire department has rigid control over installation of all types of heating appliances and prohibits the use or installation of oil burners or heating stoves.

It is felt by this writer that the great number of deaths resulting from this particular type of appliance, can be greatly reduced in our cities and towns by the inactment and enforcement of more rigid regulations. This will tend to reduce the deaths in the cities, but the great problem is on the farms and in outlying districts beyond the control of enforcement agencies. I also feel that the manufacturers of these appliances can help by improving the design of the burners, making them safer for use. But I realize, of course, that in the majority of the cases it is the human element that has to be overcome. Extensive education of the public would greatly reduce the human hazard that is ever present.

J. W. Greenfield, Chief, Brunswick, Ga.: We have had a lot of fires caused by oil stoves but no fatalities.

We have found that by telling the people who have had these fires of the danger from these stoves, we have reduced the number of fires so caused.

John Mordhorst, Chief, Fremont, Neb.: On January 4, 1950, a man and his wife burned to death and a small boy was badly burned from an oil stove. On February 11, 1951, a man was burned to death. We have had a number of oil fires, but find that if the heating plant is taken care of, there


No lubrication necessary
Carbon bearings (oilless)
Bronze spur gears (Oberdorfer alloy No. 16438)
No. 26 Pump
Piston-finished stainless steel shafts
Bronze housing (Oberdorfer alloy No. 741)

the new

OBERDORFER BRONZE BOOSTER PUMPS

These booster pumps with oilless bearings will last 3 to 5 times longer than the old style equipped with plain bronze bearings. As a result of closer machining tolerances, over 20 feet of suction lift may be depended on.

The No. 13 and No. 26 Oberdorfer Pumps are more fool-proof than they have ever been. When you get to a fire you have something you can count on. It isn't necessary to wear pumps out checking them periodically to see if they will work. These pumps are metering pumps in principle and therefore must produce the same volume for every revolution of the drive shaft.

PERFORMANCE DATA—No. 26 and No. 13 PUMPS

Pump No.	Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
26	1600	120	500'—1½"	20'	150
13	1600	120	500'—1½"	20'	75

LIST PRICES — No. 26 — $200.00 No. 13 — $90.00

Slightly higher west of Rockies

FIRE PUMP DIVISION, Oberdorfer Foundries, Inc., Syracuse, N. Y.

HERE IS THE QUESTION

Statistics show oil stoves (used for room heating) to be one of the major causes of deaths by fire in this country.

What has been the experience of your department insofar as fires of this type are concerned:

a. **Have you had any in the past two or three years which have resulted in fatalities?**

b. **Has the fire department (or city) any control over the use or maintenance of oil stoves?**

c. **If you have had no fires originating in oil stoves, how has this been accomplished?**

d. **What, in your opinion, is the most effective means of reducing the number of fires from oil stoves?**

are no more fires in this type of equipment than in other heating plants. Most of our runs for this type of fire come in the spring or fall. The reason is that the stove is turned on in the morning and as it gets warm outside it is shut off. The children come from school and play around the stove and often open the valve. As a result the pan is filled with oil. At night the stove is turned on and as a result it becomes overheated. When the stove is left on all day, we don't have any trouble.

To reduce oil stove fires, the stove must be kept clean and free from dirt at all times and must be properly maintained. You must be sure you have the right fuel and that the person repairing it knows what he is doing.

Any heating plant must be properly maintained. If not, it, too, will give you trouble.

Letcher Martin, Chief, Henderson, Ky.: We have not many oil stoves in our city, but there have been quite a few people in the country and in counties around us that have lost their lives by starting fires with coal oil.

I think the best way to stop these fires is to prevent the oil companies from hauling gas and oil in the same truck or using the same hose.

Ernest Hobbs, Chief, Frankfort, Ind.: We have had several fires from oil burning units, and have had two fatalities in the past few years. I believe these fires have been caused by improper cleaning and improper air combustion. We have had quite a bit of property damage from these oil burning units, not so much from fire as from soot and dirt going throughout an entire building.

We have no city or fire department control over them, but we try to educate the people to keep them clean and have them inspected at least once each year. We did stop a dealer from installing a home-made type by getting the insurance company agent to cooperate by refusing to write insurance on that particular property and contents.

R. S. Bass, Chief, Fort Myers, Fla.: Most of the fires that occur in the Negro section of our city are caused by kerosene cooking stoves.

In the last two years we have had three fatalities that could be attributed to kerosene stoves—a white man living out in the County and two Negroes in the city.

The fire department has no control over the use of kerosene or gasoline stoves for cooking or heating. The best solution would be to outlaw their use. The next best would be to cure human carelessness.

W. Bailey Maddox, Chief, Anderson, S. C.: We have not had any fatalities in the past two or three years from oil stove fires.

Our department only has control over the installation of the stoves through the building inspector, but most of them slip by and these are the ones which cause the trouble.

I believe the manufacturers of these stoves should try to make them as foolproof as possible for all operators. The fault now is the operator and not the stove.

Rod A. Porter, Chief, Winnetka, Ill.: We have not had any fatalities from oil stoves in this cities.

Control is exercised in cases of

Quaker

FIRE HOSE

Lightness, high flexibility, rugged construction! These are the engineering features that give Quaker Easy Fold Fire Hose its unusual handling ease and long life. Quaker hose can be stored, dispensed or pulled around with surprisingly little effort. The tough covers and tubes assure maximum resistance against severest conditions. For smooth performance and long-run economy, *choose Quaker!*

Write for name of nearest distributor.

Water and Chemical Fire Hose for Every Municipal and Industrial Need.

QUAKER RUBBER CORPORATION
DIVISION OF H. K. PORTER COMPANY, INC.
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PHILADELPHIA 24, PA.
Branches in Principal Cities

known installations by building and fire departments. We have few installations in this type of suburban area, with installations generally better perhaps than average.

Dwelling inspections certainly help to reduce the number of these fires as do such things are requiring Underwriters approved heating equipment; limiting installations to locations where central heating arrangements are not available; requiring central heating in the case of multiple occupancy (dwelling or combination store and dwelling occupancies); requiring permits for installation of oil stoves and heaters in order to determine their location and the circumstances of installation, with possible requirement for periodic fire department inspection.

It seems to me that the principal cause of trouble is lack of proper maintenance of these devices, although it is sometimes a matter of defect in assembly or parts which results in trouble.

The plain fact is that regular inspection, cleaning and adjustment of space heater eliminate the principal causes of trouble or at least reduce the chances of trouble to a reasonable minimum. Some people just will not follow a regular schedule in this respect, will not heed the advice of the fire department and consequently it is among this class that the fire and death toll is greatest. A large percentage of these tragic fires occur in rural areas where there is little or no hope of control over installations and maintenance by fire authorities and unless the user himself is reasonably conscientious about such matters, conditions develop which invite disaster.

All sorts of information on the subject of space heater maintenance and safe practice are available; however, unless there is provision for qualified inspection and adequate control of space heater installations, it seems that tragedies resulting from these known causes will continue unabated in many areas.

County agents and 4-H club leaders, the insurance, business organizations and individuals and fire departments are doing splendid work in isolated instances throughout the country. Our schools, too, are making significant contributions in many places. It is obvious, however, that the effort being made is not enough. Education in fire safety must be broadened in scope and extended to all areas to be effective.

I used to get quite a few space heater incidents when I was in Wisconsin. Many of these affairs involved places where dwellings had been converted into apartments or rooming houses and were of rural and slum construction.

It seems to me that many of those who are using such equipment are incapable of absorbing the educational material offered, or at least are of either a mentality which defies penetration or possess an attitude concerning such matters as safety which is equally impenetrable.

The conditions under which many of these people exist are such as to provide us with an answer to many space heater tragedies. As long as there is heat coming from the heater, they don't care whether it's in need of cleaning or adjustment, and after the explosion, it's too late to care.

There are also many persons who apparently are quite unfamiliar with their heaters. Women especially are often totally uninformed concerning even the most simple adjustments and requirements for proper functioning of the equipment. They don't always recognize trouble until it becomes serious.

Installers could be more helpful in some instances by providing users with safety information, emphasizing the prompt reporting of trouble and careful study of operating instructions.

Perhaps improved standards of construction, improved safety devices and additional safety controls would reduce the seriousness of the problem to some extent. Price, of course, is a primary objective in the production of this equipment as the user is usually interested first and foremost in obtaining low priced equipment; otherwise he would not be interested in this type device in the first place. There is a definite limit, therefore, in this direction.

Legalized permit, inspection and enforcement requirements appear to be the best answer to the oil stove fire problem.

* * *

The following reply is in answer to a previous round table on smoking in bed.

Ed Klecka, Jr., Fire Chief, North Muskegon Volunteer Fire Department, North Muskegon, Mich.: In the last ten years, we have had six fires caused from smoking in bed (two such fires in the same home), but no loss of life resulted from these fires.

We do not have a city ordinance to cover this type of fire, but we do have

Our covers will pass the test specified by the National Board of Fire Underwriters. Shuredry Green-Bak Salvage Covers carry the approved symbol of the Associated Factory Mutual Fire Insurance Companies.

In every emergency when speed is essential, light, pliable, easy-to-handle SHUREDRY COVERS meet the need of salvage crews. These famous Fulton Covers are made with waterproof seams and are pressure impregnated with the exclusive "Shuredry" treatment. To help cut down fire losses . . . specify FULTON SHUREDRY SALVAGE COVERS.

Our representative, O. E. Kohn, will be at the I.A.F.C. Convention in Toronto to supply you with Salvage Cover information.

EXHIBIT BOOTH #60

Fulton BAG & COTTON MILLS

Atlanta • New Orleans • Dallas • St. Louis • Denver • Los Angeles • Kansas City, Kans. Minneapolis • New York City, 347 Madison Ave. • Winter Haven, Fla. • San Francisco • Phoenix

a state law as Chief Ben Zahn of Ann Arbor, Mich., has told you.

My suggestion as to one method that might help to prevent this type of fire along with other fires, would be to advertise with one of the main causes of fire, matches.

The National Board of Fire Underwriters state that 26.95 per cent of all fires are caused from smoking and matches (January 1, 1941—December 31, 1950). Now, why not have the insurance companies use the book match for a nation-wide, year-round fire prevention and education program. This program could work like this:

Have your books of matches printed with different pictures and fire prevention facts on them (on an order of 100,000 matches, use three or four different pictures). Place these in insurance offices, stores, service stations, etc. This could be done partially by the firemen on their monthly inspection tour, by the insurance salesmen, etc.

To further exploit the bookmatch as a fire-prevention medium, you could use the match holder, place a poster, such as the small one put out monthly by the N. F. P. A. on the back of the holder. This could be changed each month and should help to attract attention to the matches.

New York Will Research Fire Laws

Gov. Thomas E. Dewey in July appointed seven members to a thirteen-man temporary State Commission on fire laws and designated State Senator S. Wentworth Horton of Greenport as chairman.

The commission was created by the 1953 legislature to study fire protection problems in rural and suburban areas and to review laws relating to volunteer firemen.

Appointed by Gov. Dewey are: Stephen Fox, New Hyde Park, president of the Association of Fire Districts of the State; Charles Mangan, Great Neck, L. I., a banker; Morgan Strong, Albany, executive secretary of the New York State Conference of Mayors; William A. Reed of Hamilton, Colgate University; J. Willis Barett, Williamson, attorney; Albert J. Foley, Dunkirk, chairman, law committee and attorney for the Firemen's Association of the State of New York and Edward F. N. Uthe, Coeymans, acting executive secretary and treasurer of the Association of Towns of the State of New York.

State officials, also named to the Commission, include: State Comptroller Raymond McGovern; Chairman Mary H. Donlon of the State Workmen's Compensation Board; Superintendent of Insurance Alfred J. Bohlinger and Director of the Division of Safety, Thomas W. Ryan.

Jersey Crash Injures Six Firemen

Six members of the Jersey City, N. J., Fire Department were injured July 19, last, one critically, when a ladder truck and a hose truck en route to a grass fire from opposite directions, collided at Ocean and Danforth Aves.

Fireman John Reigler, 58, was critically injured when he was thrown from his seat at the tiller of the ladder when it overturned. Both pieces of apparatus were badly damaged.

Nip Brush Fires in the Bud with an FZZ

Be Prepared NOW to Fight Forest Fires with a HALE FZZ Portable Pumping Unit

Above and at bottom are two on-the-spot pictures showing a HALE Type FZZ Portable Fire Pumping Unit fighting a brush fire from a moving truck. An FZZ can be mounted or carried on any type of equipment, making it a real "work-horse" for fighting brush, field and forest fires while in motion. Booster tank is used for a source of water.

The Hale Type FZZ is a powerful, sturdy, ready-to-use unit built specifically for fire fighting. Compact, dependable and efficient, it will stand long hours of continuous pumping.

Above—FZZ Pumping solid stream and fog.

Above—FZZ Relaying through Major Pumper.

Above—FZZ Pumping Foam (Foam proportioner built in if specified.)

The unit will supply from draft, 60 U. S. Gallons per minute at 90 lbs. pump pressure, and up to 150 U. S. Gallons per minute at 30 lbs. It can supply two capable fire streams through 1½" hose lines using nozzle tips up to ½".

Note: Discharge adapter can be supplied for use with 2½" hose.

Available in carrying frame; mounted on two wheels; or mounted on rubber-cushioned steel channels.

Nip Brush Fires in the Bud with an FZZ

● *Write today for FZZ Circular. Ask for Demonstration.*

HALE FIRE PUMP COMPANY Conshohocken, Pa.

● Fire Pumps in All Standard Capacities

Among the Buffs

By Paul C. Ditzel

VACATION time is with us again and judging from the mass migration of buffs to the Los Angeles area, it looks like every eastern department is being left "unguarded" during these hot months.

Among late arrivals are: Al. Redles of Philadelphia; Al. and Thea Winograd of Chicago; Steve Lasker, NBC photographer, also from the Windy City; and Dr. Max Schneider of Buffalo, N. Y. Max was in the area to attend to the aches and sprains of the nation's Boy Scouts who packed the Orange County area for their Jamboree.

The official greeter, George "Smokey" Bass, was unavailable most of this time, but for good reason. Smokey finally got that "once in a lifetime" thrill when he put on the badge and turnouts of the Vernon, Calif., Fire Department. The Vernon department operates in a strictly industrial area in a suburb east of the City of Los Angeles.

Speaking of Buffalo, reminds me of the misguided visitor to the City of Good Neighbors. He wrote a postcard to mail to a friend in Canada where he lived. Now in Canada the mailboxes are painted red and your columnist frequently has mistaken the Canadian boxes for fire alarm boxes.

The inevitable, of course, happened when the Canadian spotted the typical red American firebox. He gave the hook a jerk and was surprised when no slot opened. That was nothing compared to his surprise a few minutes later when a full assignment of fire apparatus rushed up. The judge didn't have the heart to fine him. Good Neighbor policy and all that.

Secretary N. G. Barker of the Box 12 Association of Toronto, Canada, calls attention to the International Association of Fire Chiefs annual convention in the Canadian city on Sept. 15 and running through the 18th.

"The Box 12 Association of Toronto would be pleased to have any Buffs who will be attending the convention contact us at Toronto Fire Department Headquarters, 152 Adelaide St. West, Telephone Empire 3-2138," writes Barker. He says the club will hang out the welcome mat for any and all buffs who want the Cook's tour of the Toronto brigade.

Friend of mine, who is a buff in the Bethany, Okla., area, took his girl friend to a drive-in movie there the other night. She insisted on the drive-in because she was tired of cruising around looking for fires to watch. Suddenly the melodrama ended when the 90-foot screen went up in flames. Loss was put at $35,000. "It was more realistic than 3-D," said my friend.

Buffs around the country write for first-hand information on the outbreak of major brush and forest fires in the Los Angeles area. Truly, the county and federal fire officials have been kept busy to the point of exhaustion with several blazes in the Angeles National Forest area.

But the blazes have a severely tragic twist. Chief Cecil Gehr of the Los Angeles County Fire Department was nearly instantly killed when a 20-year-old youth shot through an intersection and plowed into the side of the chief's big buggy. Fifteen witnesses told police the Chief had the siren and light operating at the time. Chief Gehr was on the way to a major brush fire in Little Tujunga Canyon which threatened the summer ranch home of Cecil B. DeMille.

Congratulations are in order for Bob Olson, editor of the Los Angeles Box 15 Club's newspaper. Bob's wife presented him with the "First American Fire Pump," as his unique birth announcement put it. The red and white announcement had a cut of a mid-18th century type pumper. The "specifications" for John Walter Olson include: "vocal siren, one GPM pump, one gallon water tank and a weight of 9 pounds 13 ounces, hose equipped." The announcement was signed, Bob Olson Engine Manufacturing Co., 209 N. Redman Ave., Whittier, Calif. Production Chief was Emily Olson and chief investor was Bob Olson.

My pal Oswald Pompier comes up with what he believes is the answer to the forest fire problem. While sipping a Zombie Cocktail at the El Mirador, he elaborates on his catch all!

"Give me a couple giant helicopters and I'll load them up with 5,000 gallons of chemicals or water spray and fly over the edge of the fire. Maybe 500 or more of these eggbeaters would do the trick better." Oswald also dreams of fire doors which would have to open in the roof so the helicopter could take off

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Alternator Systems

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WHEREVER YOU LIVE, you recognize this view of New York, a great city, famed for its skyscrapers. And New York recognizes the Leece-Neville Alternator... it is doing a great job every day on that city's fire equipment.

New York is just one of many cities where L-N Alternators are helping fight fires and save lives. You'll find them in Chicago, Toronto, Buffalo, Atlanta, Pittsburgh and hundreds of other cities, large and small, here and abroad.

More than seven years of performance on thousands of vehicles has proven the advantages of L-N Alternators over conventional DC generators.

There are L-N Alternators for 6 volt systems with capacities to 95 amperes; for 12 volt, up to 180 amperes; and for 24 volt, to 80 amperes. Be sure to specify Leece-Neville Alternators on your vehicles. Write today to The Leece-Neville Company, Cleveland 14, Ohio.

Custom-Engineered Electric Equipment Since 1909.

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proved by performance for over 7 years

vertically. Easy there, old boy; time for your coffee.

Up in Meriden, Conn., five young men who admitted they turned in a false alarm to celebrate a high school basketball victory were ordered by a police court judge to spend 26 Saturdays cleaning up the local fire houses. "Let the Punishment Fit the Crime," wrote Gilbert and Sullivan.

Striking it out again this month, I remind you that the space for anecdotes in this column is still unlimited. Keep them coming from your fire fan clubs and especially from you lone buffers. The address remains the same: 1246 Tamarind Ave., Hollywood 38, Calif., or you can reach me at the paper, *Los Angeles Daily News*, 1257 S. Los Angeles St., Los Angeles 54. Telephone number: Richmond 6565, Extension 368.

World Wide Fire News

By Roi B. Woolley

Guatemala Blast Toll, 21 Dead

A big mystery explosion in a grocery warehouse in downtown Guatemala City on June 30, last, killed 21 persons and injured 40 others, sending sheets of flame through a crowded near-by hotel and homes.

The number of dead was at first placed at 31 but revised when missing persons were located. Property loss in the blast is estimated at between $500,000 and $1,000,000.

Cause of the explosion, which shook the entire city of 300,000, was not definitely determined but believed to be sabotage. Police and Army investigators entertained the idea the dynamite may have been connected with a possible plot against the government.

In the blast the thick-walled concrete warehouse was demolished. An adobe-construction hotel adjoining collapsed, burying its victims. Rescue workers and volunteer firemen aided by derricks and bulldozers lent by the U. S.-owned International Railway, the municipal government and the highway commission were used to clear the debris. Armed soldiers and police patrolled the area.

The fire department statement said "The blast undoubtedly was caused by a great quantity of highly potent explosive which probably was secretly stored in the area, but the cause of the blast and why the dynamite was there are still unknown."

The volunteer fire brigade and workers from the railway and government highway commission fought the resulting flames for nearly four hours before bringing them under control. Rescue work was directed by a public address system. Workmen used torches to cut apart the wreckage.

* * *

Hot Off the News Ticker

Four workmen were killed July 15, last, when a gunpowder plant at Francavilla al Mare, Italy, exploded. . . . A Royal Air Force plane towing an artillery target over the Isle of Sylt was shot down by practicing British gunners July 13. The pilot who freed himself though seriously injured, was taken by a German officer by car to the hospital. En route

Are 90% of your fires LITTLE ONES?

. . . then *Pocketaire** is the answer!

- A self-contained oxygen mask
- Pocket size
- Weighs 4 lbs.
- Low cost
- Equip a full crew instead of two

for *Survey, Ventilation, Rescue, Escape*

. . . but how about the few BIG ONES?

*Pocketaire** WITH 30-MINUTE CYLINDER IS

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Breathing Equipment On The Man Instead Of On The Truck

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MILFORD, CONNECTICUT

there, the car collided with a Royal Air Force fire engine dashing to the scene of the crash. Both vehicles were damaged. . . . The City of Newark, N. J., received $60,000 from the Federal Government as a contribution toward $140,280 cost of nine 1,000 G.P.M. pumpers. . . . The Navy is investigating a fire which destroyed a large quantity of fiberglas insulating sheets June 18 last at the $22 million Navy jet assembly plant under construction at North Manorville, L. I. Fire companies from Manorville, Riverhead and Wading River fought the blaze. . . . In Mexico City, a beggar woman died of burns suffered when a street "fire swallower" blew flames at her. The elderly woman reportedly had been following the "fire breather" around asking alms of the crowd, and her clothes became ignited when, according to the performer, she got too close. . . . The Wursterheide' (Ger.) Volunteer Fire Department rolled into action when a wing of a local dwelling caught fire recently. So did units from Cuxhaven's city fire department. "This is our fire" cried the Wursterheide lads—but the Cuxhaven firefighters paid no attention, so the Wursterheiders turned a stream of water on them. Whereupon Cuxhaveners retreated—and the onlookers ditto, albeit a bit drenched. The burning wing was destroyed. (Thanks W. A. McDonnell). . . . In Durban, South Africa, flames raged through the city's largest wool warehouse for over 24 hours, to destroy wool, jute and hides worth $5½ million. . . . Hilaire Belloc, 82, noted British essayist, historian and economist, died following burns received when he fell into a fireplace in his home. . . . In Calgary, Alberta, old Fire Hall No. 5, which for years resounded to the wail of fire sirens, has been hearing wails of a different sort. The City Health Department has converted it into a clinic for infants. . . . Up Port Dalhousie, Ont., way, citizens turn off their taps and lawn sprinklers every time the fire siren sounds. The council in this lake port near St. Catharines, ordered the practice to build up the water pressure for fighting fires. . . . Fire on July 15 reportedly destroyed a big U. S. Army warehouse in Kassel, Germany, with estimated loss of over $1 million. The fire, which is being "probed," is the second in an American warehouse within three weeks. In Rome, Italy, a small fire stalled an electric train in a tunnel, causing panic among the passengers, one woman being seriously injured and many bruised in the stampede that followed. . . . Nine members of one family were killed and three houses destroyed July 12, last, when a bomb being dismantled for its powder exploded at Tacloban on Central Leyte Island, according to Manila reports.

* * *

President Eisenhower's Birthplace a Fire Hazard

The sponsors of the Denison, Texas, top tourist attraction had red faces, and the birthplace of President Dwight Eisenhower, had red tags, the other day.

Fire inspectors attached the red tags after they found—

1. A serious gas leak in the antique cookstove which was used to cook a breakfast for the President on one of his visits to the shrine.

2. Two open flues which the inspectors said were capable of spreading a fire throughout the building in a matter of minutes.

Red-faced Denison Gold Star Mothers, custodians of the two-story frame house, said they would have the fire hazards corrected immediately.

* * *

By-Products of This Chemical Era

CAMDEN, N. J.—A mysterious odorless and colorless gas, seeping from the ground under the plate and angle shop of the New York Shipbuilding Company May 15, last, took the life of one laborer and seriously disabled another.

The worker, John Lewis, Jr., 21, was asphyxiated when he went to the bottom of a 14-foot hole to retrieve a shovel he used the day before. Edward Loftus, 31, who tried to rescue Lewis, was overcome but was later revived by a resuscitator crew after he had been pulled to safety by a third worker, Joseph Williams, 25. Plant chemists, puzzled, were trying to find the source of the poisonous gas.

PASADENA, Calif.—A smoldering fire at the Caltech Jet Propulsion Laboratory in the Upper Arroyo Seco sent 10 County firemen to the hospital for treatment of lung irritation. Two County fire companies from Flintridge joined three Pasadena City Fire Department crews at the scene of the early-morning blaze, but the fire had already been put under control by the plant fire brigade.

Officials of the jet propulsion laboratory withheld information except to say that the small fire had occurred in a test chamber in which "classified" work is being done. The firemen treated at the Pasadena Emergency Hospital were reported not seriously injured.

Show This Safety Film FREE!

Use this fine safety film, "SAFE EXIT," in your safety program at school, plant or club meeting. Dramatically filmed and edited by the makers of VON DUPRIN Fire and Panic Exit Devices, "Safe Exit" is a public service film devoted to the promotion of safety education . . . and offered to you *absolutely free*. It is in no sense a product story.

"SAFE EXIT" is a 20-minute, 16 mm, black and white sound movie, ideal for use in any safety training program for children or adults or for informal luncheon club or PTA meetings.

It costs you nothing to show "SAFE EXIT"—not even postage! Just fill in and mail the booking coupon request below. Send it today . . . help promote safety all year long.

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406 West Maryland
Indianapolis 9, Indiana Date.....

YES, we wish to show the 16 mm, sound, B & W movie, "SAFE EXIT."

Date desired.....or.....

Type of audience.....

Expected attendance.....

We understand film is absolutely rent-free, postage paid. We agree to return film the day following our showing.

Organization.....

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City..... Zone..... State.....

Von Duprin PANIC DEVICES

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Convention Dates

Aug. 21-23—OHIO STATE FIREMEN AND LADIES AUXILIARIES. Annual meeting, Akron, Ohio. General Chairman, Chief Duene Harris, Springfield Township Fire Department, Sawyerwood, Ohio.

Aug. 24-28—TEXAS FIREMEN'S TRAINING SCHOOL. Annual meeting, Texas A. & M. College, College Station, Tex. Director, H. R. Brayton, Fire Service Training, A. &. M. College, College Station, Tex.

Aug. 24-28—TENNESSEE STATE FIRE SERVICE SCHOOL. Annual meeting, Middle Tennessee State College, Murfreesboro, Tenn. Director, W. A. Seeley, State Supervisor, Trade & Industrial Training, 202 War Memorial Building, Nashville, Tenn.

Aug. 26-29—MONTANA STATE FIREMEN'S SCHOOL. Annual meeting, Polson, Mont. Director, Clayton Brown, Polson Volunteer Fire Department.

Aug. 30-Sept. 1—NEW YORK STATE PERMANENT FIREMEN'S ASSOCIATION. Annual meeting, Glens Falls, N. Y. Secretary-Treasurer, Robert E. Mills, 420 Plymouth Drive, Syracuse 6, N. Y.

Aug. 29-30 — MONROE COUNTY FIRE SCHOOL. Annual meeting, Irondequoit, N. Y. For information contact C. Nichols, 3152 Chili Avenue, Rochester 11, N. Y.

Sept. 3-5—WEST VIRGINIA STATE FIREMEN'S ASSOCIATION. Annual meeting, Charles Town, Jefferson County, W. Va. For information, contact The Independent Fire Company of Charles Town, W. Va.

Sept. 8-10—PACIFIC COAST INTER-MOUNTAIN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Tacoma, Wash. Secretary-Treasurer, Jay W. Stevens, Merchants Exchange Building, San Francisco, Cal.

Sept. 8-11—OHIO STATE FIRE SCHOOL. Annual meeting, Port Columbus Naval Air Station, Columbus, Ohio. Director, Foss H. Gragg, Deputy State Fire Marshal, 607 Wyandotte Building, Columbus 15, Ohio.

Sept. 8-11—MARYLAND SHORT COURSE FOR FIREMEN. Annual meeting, University of Maryland, College Park, Md. Director, Robert C. Byrus, Fire Service Extension, University of Maryland, College Park, Md.

Sept. 11-12—JEFFERSON COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting and tournament. Adams, N. Y. Secretary, Jack Farrell, 513 Lakeview Drive, Dexter, N. Y.

Sept. 14—CANADIAN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Toronto, Ont. Secretary-Treasurer, Chief Allan Clark, Fire Headquarters, Lakefield, Ont.

Sept. 14 — GREAT LAKES ASSOCIATION OF FIRE CHIEFS. Annual meeting, Toronto, Ont. Secretary-Treasurer, Chief Charles A. Delaney, Lakewood, Ohio.

Sept. 14-18—VIRGINIA STATE FIRE SCHOOL. Annual meeting, Number 9 Fire House, Norfolk, Va. For information, contact Fire Marshal Clay A. Easterly, Director, P. O. Box 1113, Martinsville, Va.

Sept. 15-18—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Annual meeting, Toronto, Ont. Secretary-Treasurer, Chief Daniel B. Tierney, 8 Robbins Road, Arlington 74, Mass. Headquarters office, Hotel Martinique, Broadway and 32nd Street, New York 1, N. Y.

Sept. 26-27—FIRE CHIEFS SCHOOL. Annual meeting, Old Forge, N. Y. For information, write W. Lewis Armstrong, P. O. Box 186, Old Forge, N. Y.

Oct. 2-4—NEW JERSEY STATE FIRE COLLEGE. Annual meeting, Fort Dix, N. J. For information, contact John P. Weeks, President, New Jersey State Fire College, Room 806, 24 Branford Place, Newark 2, N. J.

Oct. 4-9—FIRE INSTRUCTORS' CONFERENCE, to be held at Buffalo, N. Y.; Master Mechanics Section to be held in Elmira, N. Y. For information, contact Training Coordinator, State Division of Safety, 17 Elk Street, Albany 7, N. Y.

Oct. 5-8 — INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION. Annual meeting, Columbus, Ohio. Secretary, Irvin Shulsinger, International Municipal Signal Association, 130 West 42nd Street, New York 3, N. Y.

Oct. 14-16—ILLINOIS FIREMEN'S ASSOCIATION. Annual meeting, Bloomington, Ill. Secretary, R. W. Alsip, Box 8, Champaign, Ill.

Oct. 19-21—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. Seventy-first annual meeting, Omaha, Neb. For information, write Russell D. Salak, Secretary-Treasurer, P. O. Box 312, Schuyler, Neb.

Oct. 20-23—KANSAS STATE FIRE SCHOOL. Anual meeting, University of Kansas, Hutchinson, Kans. Director, Gerald Pearson, Director Extension Classes, 111 Fraser Hall, University of Kansas, Lawrence, Kans.

X MARKS THE SPOT IN CLEVELAND

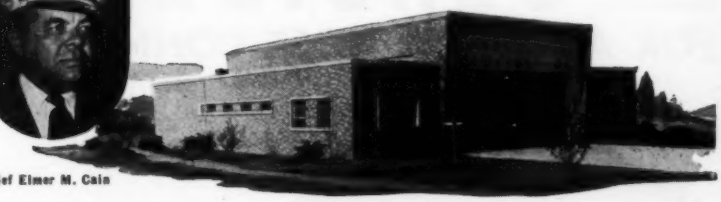
CIRCUL-AIR SAVES CLEVELAND $350,000.00

Yes . . . Cleveland, too, has "X-ed" out hose towers, racks and such out-moded devices in favor of Circul-Air dryers for hose and fire clothing. According to the Cleveland Plain Dealer, Chief Elmer M. Cain and Safety Director Birkett L. Williams have shown the city savings of $350,000.00 by eliminating all such unnecessary extravagances in 4 new fire stations and given their City engine houses a more attractive, truly functional design.

The City has also just placed an order *for* 17 *Circul-Air dryers* as a start toward this modernization program. Many of these will replace existing towers or be installed in stations previously without drying facilities.

Cubic contents are thus reduced and down go building costs in Cleveland as they have in over 2000 other cities and towns . . and . . in every case . . they get better hose drying with less work, less man-power, less investment. Circul-Air is the *preferred drying medium for hose and fire clothing in over 70% of the nation's new fire structures.*

Chief Elmer M. Cain



Circul-Air is the patented electrically operated hose dryer, which circulates prewarmed fresh air through loosely coiled hose at the rate of 5 to 6 air changes per minute. Saves floor space, hard work and lengthens hose life!

No other method is so fast—so economical—so easy to use. If *you* haven't enjoyed the benefits of Circul-Air, we suggest you investigate its merits now—write for catalog and Hose Drying Manual.

THESE TOWNS . . . AND 2000 OTHERS PROTECT THEIR HOSE WITH CIRCUL-AIR

Atlanta . Akron . Allentown . Augusta . Boston . Birmingham . Binghampton . Cincinnati . Columbus . Chicago . Dayton . Detroit . Erie . Fort Smith . Flint . Galveston . Houston . Ithaca . Jacksonville . Kalamazoo . Kansas City . Louisville . Lafayette . Memphis . Milwaukee . Miami . Monroe (La., Mich.) . Niagara Falls . New Haven . New Britain . Nashville . Oklahoma City . Omaha . Philadelphia . Providence . Pensacola . Rochester . Seattle . Savannah . Springfield . Shreveport . Toledo . Topeka . Washington . Wichita . Wheeling . Winnipeg . Youngstown .

LABORATORIES APPROVED

ACCEPTED · APPROVED · RECOMMENDED

Accepted as the preferred drying medium in most of America's largest fire departments . . . *Approved* by leading testing laboratories, including Underwriters' Laboratories . . . and Canadian Standards Association. Recommended by fire hose manufacturers and Fire Chiefs "all over America."

If you are planning to build, send for our new brochure "FIRE STATION DESIGN."

THE CIRCUL-AIR CORPORATION

575 EAST MILWAUKEE DETROIT 2, MICHIGAN

Questions and Answers

Residual Pressure in Relay Lines

To the Editor:

In a number of publications the recommendation is made that the pumper at the source of supply, in relaying water, and the intermediate pumpers supply the next pumper with 40, 50 and 60 pounds pressure at the suction intake. I do not subscribe to this because it imposes an unnecessary strain on the supplying pumper in pressure production. To my way of thinking, if the pumper receiving the supply is in fairly decent shape, 20 or 25 pounds supply at the intake would be adequate for this pumper to build up pressure to the required outlet pressure. Then again, this lowered suction intake pressure would allow the supplying pumper to be placed at a greater distance from the pumper it supplies.

What is your opinion?

J. D.

Answer: It is not necessary for a pumper to deliver a residual pressure of more than 20 pounds to the second pumper in line in relay.

For example, if 2½-inch hose is being used, and the residual pressure is but 16 pounds, the first engine can deliver to the second engine a flow of approximately 650 gallons per minute. To allow a little additional pressure at the second engine, 20 pounds would be the maximum required. Actually, a 10-pound residual pressure is sufficient in most cases.

There might be one instance in which a high residual pressure would be desired. For example, if a relay has been placed in position, and the first pumper is not operating at its full power, a higher residual would be desirable if the load on the second pumper were too great. This is particularly so where centrifugal pumps are being used. If the residual pressure from the first engine is increased materially, this pressure helps the second engine carry its load.

Hazards of Stack Fire

To the Editor:

We burn crude oil in our steam plant, which supplies an 800-ton paper mill, and during the winter it seems as if a quantity of unburnt oil and carbon accumulates in the fire stack, which is 325 feet high.

In the spring we clean the bark off all the wood and burn in a bark burner, which gives us over 1 million pounds steam per day. When this operation starts, we always have a fire in the stack, showering burning carbon all over the mill, creating a dangerous fire hazard.

Do you know of anything that would control this fire hazard?

A. C.

Answer: While it might be possible to control the fire in the stack by use of carbon dioxide discharge at the base of the stack, the wisdom of such procedure is questionable. The unburned material would still remain in the stack to become ignited again.

Nor would it be practical to clean the stack each year prior to the burning of bark.

We have reviewed not only all American literature on the subject, but British fire books as well. There seems to be no real answer to the problem. Controlled burning each Spring, with protection of areas exposed to falling embers, appears the only method left.

Some years ago tests were conducted on the extinguishment of fire in vertical shafts by the use of very fine fog delivered at the base of the shaft. The strong draft upward in the shaft was sufficient to carry the finely divided water considerable distances. But tests were never run on a scale such as in a stack the height of the one you describe, so we do not know, nor do we believe, water fog would be effective in this instance.

Bracing Water Towers

To the Editor:

How do the water tower manufacturers provide against the tipping over of the water tower?

Does the weight of the apparatus come into play in this regard?

Are the tormentors supposed to

SENSIBLE

FOR ALL YOUR HOSE CONNECTIONS

improved

SENSIBLE LUG COUPLINGS

(ROCKER LUG TYPE)

meets

GOVERNMENT SPECIFICATIONS

After 61 years' experience in the fire-fighting equipment field, Powhatan takes justifiable pride in the Improved Sensible Lug Coupling. Our full 61 years of know-how are represented in this modern and dependable piece of equipment. . . . Specify "Sensible."

POWHATAN BRASS and IRON WORKS

RANSON, WEST VIRGINIA

Phones 93 & 94 Charles Town, West Virginia

Established 1892

hold up against a certain maximum turning moment?

Is there any reason why the operators of a water tower should lash the extended tower with a rope and tie it to the wheels or lower portion of the tower itself to prevent this tipping?

J. W. P.

Answer: Various methods are provided to prevent water towers from tipping over when in operation. Some manufacturers use outriggers with jacks; others use a combination of outriggers and chassis jacks, while still others use braces which are attached to the tower near the center of the sector which raises the mast. The braces, or tormentors, are of sufficient length so that they may be firmly placed against the ground well away from the chassis of the water tower and thus provide an effective means of bracing against the nozzle reaction.

With some types of towers, it is possible to incline the mast towards the building when the tower is in operation, thus giving additional resistance to overturning.

We see no reason why the mast should be lashed to the wheels or lower portion of the tower itself, unless the mast has become weakened in some way or other and requires the guy ropes to strengthen it.

The weight of the water tower aids in resisting the reaction of the stream.

Use of Ladders; Acetylene Safety Factor

To the Editor:

The following questions were asked in a recent promotional examination:

1. When placing ladders in connection with fighting a fire in a multistory building, first consideration should be given to possible rescue operations. Next in order of importance should usually be (a) covering internal exposures; (b) covering external exposures; (c) ventilation.

2. Free acetylene should be generated, distributed and consumed at pressures below 15 pounds gauge. This would give a safety factor of (a) 1; (b) 2; (c) 3.

G. F. A.

Answer 1: With reference to the order in which certain operations should be carried out at a fire, life saving, of course, is the first. The answer to the balance of the question depends upon many factors, the principal one of which is the stage of the fire at the time the department arrives.

Normally, covering of external exposures, where the fire is threatening, would be the second operation. In many types of establishments, it may be a physical impossibility to extinguish the fire before the establishment is destroyed, whereas it is possible to head off the fire from extending, and thereby confine the destruction to the building in which the fire originated. It may be safely said that where the fire is of such proportions that it cannot readily be extinguished and where other buildings

SMALL . . .

but with full authority

A miniature badge is small in size but we all know it carries full authority for you. You're proud of it, that's why you should be sure your *miniature* is a truly fine badge reflecting honor and prestige for you and your department.

Ask your equipment supplier to show you the finest . . . BLACKINTON BADGES the next time he calls.

All of our miniature badges are made with solid backs, suitable for engraving.

DEALERS:—*Why should you promote and sell Blackinton Badges?*

Because — (1) Blackinton sells only through authorized dealers in the United States and Canada—we protect and encourage your sales effort—we do not contact departments direct.

(2) *Lower* selling price with *higher* dealer discounts to you.

(3) Constant improvement in *design, finish* and *development.*

BLACKINTON

V. H. BLACKINTON & CO., INC., ATTLEBORO FALLS, MASS.

are seriously exposed to the fire, second attention (following saving of lives) should be directed to the exposed buildings. However, if it is quite certain that the fire can be extinguished promptly with the apparatus on hand, then judgment should be exercised in this particular case as to whether the fire is extinguished through the apparatus available, or whether exposures are first covered and then the fire extinguishment carried on subsequently.

Assuming the fire is well advanced, and that exposures are threatened, then covering external exposures should be the second step (following rescue operations) when placing ladders.

If the fire has still not reached dangerous proportions, then ventilation would normally be carried out and subsequently covering of internal exposures immediately pursued.

Answer 2: With reference to the factor of safety involved in generating and distributing free acetylene gas at below 15 pounds gauge pressure, the factor of safety would depend upon what was considered the maximum pressure that could be used without danger of explosion. One authority states that a gas should not be compressed to two or more atmospheres. Two atmospheres would be 39.4 pounds.

If this statement is correct, then the factor of safety would be 2, for 39 divided by 15 equals 2 approximately.

As there is considerable difference of opinion as to what maximum pressure can be employed in generating and distributing free acetylene gas, the factor of safety cannot be considered as an unalterable figure.

LOUDON FIRE DEPARTMENT

LOUDON, N. H.

The Gorman-Rupp Company
Mansfield, Ohio

Dear Sirs: Had a rather serious woods fire last spring during which I had eight fire departments and several hundred men on the lines for two days. It was Sunday, May 7th, a class V fire day and a twenty-five-mile wind blowing. A successful stand was made along a narrow road with a pumper or hose line standing by each set of buildings for three-quarters of a mile. In the middle of this was a considerable stretch without buildings except for a school house but with plenty of material for the fire to feed on.

Dropped a suction line from our Gorman-Rupp into what appeared to be a limited amount of swamp water, pumped continually for over three hours during which the twin 1½" lines saved the school house after which they were reversed and carried to assist in saving a set of farm buildings.

During the mop up that followed a dormant finger of the blaze sprang to life and raced out of control until the Gorman-Rupp was carried a quarter mile from any road and again went to work supplying two long 1½" lines greatly shortening the time to control and confining it to a comparatively small area.

We are planning on one or two more portables in the near future — they will be Gorman-Rupps.

Very truly yours,
J. W. ROBINSON
Chief

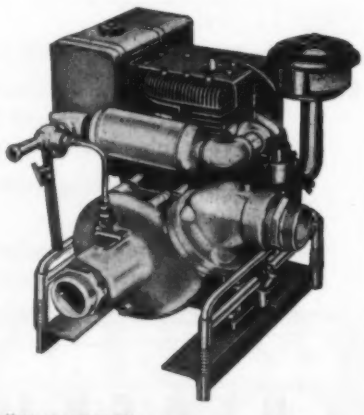
★ **AS A BOOSTER PUMP**
It will deliver 175 g.p.m. through 300 ft. of 2½-in. hose to the top of a hill 50 ft. high.

★ **FOR FIGHTING FIRE DIRECT**
It will throw 100 g.p.m. at 80 lbs. or 80 g.p.m. at 88 lbs. pressure — capacity sufficient to supply two 1½-in. lines.

★ **PRIMES IN 15 TO 30 SECONDS**
It weighs only 162 lbs. Equipped with carrying handles.

★ **EASILY CARRIED BY TWO MEN**

Ask for Bulletin No. 9-FD-11



Complete copies of letters on request

THE GORMAN-RUPP COMPANY
MANSFIELD, OHIO

Two Lines Feeding Deck Gun

To the Editor:

Recently while aiding a factory representative give a new 750 gpm pumper an Underwriters acceptance test, I came upon a situation which I do not quite understand.

This is the situation:

The pumper was drafting from a lake. The engine is pumping at a pressure of 150 psi. Two 50-foot lengths of 2½-inch hose are taken off the discharge and siamesed into the inlets of a deck gun with a 1¾-inch nozzle tip. I have calculated that with the engine and nozzle pressure formula one 50-foot length of hose into the deck gun would have given more than enough nozzle pressure for a discharge of 750 gpm. Example:

$$\text{N. P.} = 150 \div (1.1 + .907 \times 1)$$
$$= 75 \text{ psi N. P.}$$

As you readily see, 75 pounds per square inch would give a discharge of over 750 gpm. However, here is my problem. Since the other discharge line into the siamese was used and the operator had the gate valve locked in the ½-open position, considerable friction loss was present in the line. With the other discharge gate wide open, and no friction loss from a partly opened gate valve, the full pressure from this line must have appeared at the clapper valves in the inlets of the deck gun.

How could the reduced pressure in the line with the gate valve one-half opened possibly have overcome the pressure against the clappers created by the first line, and deliver water into the deck gun? R. S.

Answer: Where a pump is supplying two lines of hose to feed a deck gun, water will be carried by each, irrespective of the diameter of the hose line.

To explain the above, let us make the following assumptions:

Suppose the pumper is delivering 750 gpm at 68 pounds nozzle pressure. The friction loss in a 50-foot section of 2½-inch hose would then be 60 pounds, and the pump pressure 128 pounds.

Suppose further that a second line was stretched from the pumper to the siamese. The second line may be any diameter desired.

As the friction loss in the first line, which we will call Line A, is 60 pounds, the pressure at the siamese connection of the wagon pipe or deck gun will be 60 pounds less than the engine pressure. In other words, there is a drop in pressure, due to friction, from the engine to the siamese connection of 60 pounds.

Now if the second line is put into operation, the pressure at the pump will, of course, be 128 pounds. If no water is flowing through the second line, this pressure amounting to 128 pounds will be transmitted directly to the siamese connection. Of course, 128 pounds being greater than 60, the clapper valve in the siamese will open and both lines will supply water to the deck gun. Now, if the discharge valve on the

pumper is partially shut down on Line B, you may impose additional friction loss in this line, but there will be a flow through the line and this flow will depend upon the diameter of the second line and the friction in the discharge gate from the pumper.

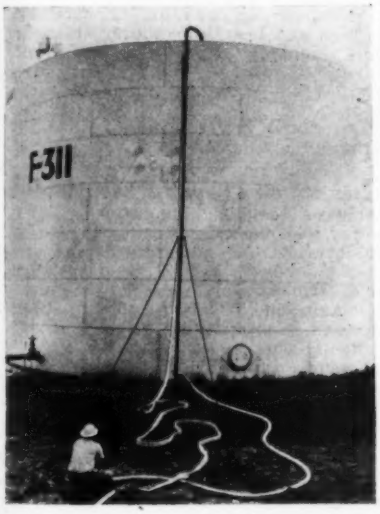
No matter how great the friction loss in Line B is, nor how far the discharge valve on the pumper is closed, as long as water flows from the engine through this line to the nozzle, you will develop sufficient pressure at the siamese connection to the deck pipe to open the clapper valve.

You may reduce the amount of water flowing in Line B, but as long as there is an opening in the valve, and the line is clear of obstruction, the water will flow. For if you stop the flow of water at the clapper valve, the pressure would build up at the clapper valve of the deck gun to the full 128 pounds, which would be sufficient, of course, to open the valve.

News of the Manufacturers

National Hydraulic Foam Tower Has Many Features

A new portable foam tower, raised and lowered by hydraulic action, is now offered by National Foam System, Inc., of West Chester, Pa. It is used in fighting flammable liquid tank fires.



New foam tower in position for operation.

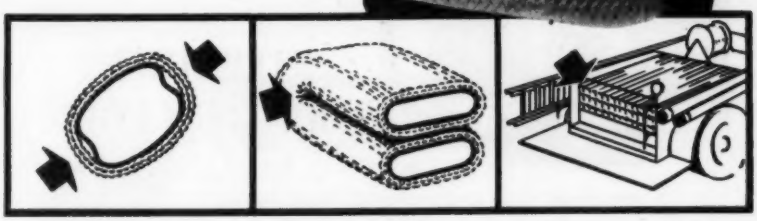
The tower, illustrated herein, can be set up in a fraction of the time formerly needed for such appliances and, according to the maker, with one-third the manpower. It can be used for tanks of varying heights and is easily converted in the field for use with chemical foam.

Lowering as well as raising is done hydraulically. Four men can accomplish the work (compared to 12 or 15 with manually operated towers). After hose is connected, all operations, including raising, are controlled at a safe distance from the burning area.

The new tower is compact, easily carried, handled and stored, and is said to be stable and rigid in its operation. It delivers Aer-O-Foam in accordance with NBFU requirements. It is equipped

FLEXFOLD
FIRE HOSE
FOLDS EASIER

★ . . . and with less wear at the folds! Why? Because Republic Rubber's FLEXFOLD, a flawless, double-jacket municipal fire hose, is built with special mobile-edge tube . . . tubes that flow within the folds of the jacket without distortion or creasing. FLEXFOLD fire hose is easier handling. Unrestricted edge movement of the rubber tube (unanchored along the fold) reduces tension and compression. FLEXFOLD fire hose packs more compactly. Your truck or storage racks will hold MORE FLEXFOLD.



1. Exaggerated cross sectional view showing mobile-edge FLEXFOLD tube . . . a tube free to "give" with the folds.

2. Mobile-edge tube "moves" as the hose is folded. This reduces tensional and compressional stresses, permits tighter folding with less danger of "crease damage."

3. Structural mobility of FLEXFOLD fire hose means you can pack more hose in less space on the truck or on the storage racks.

Write now for complete information on Republic's FLEXFOLD fire hose.

REPUBLIC RUBBER DIVISION
LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO
INDUSTRIAL RUBBER PRODUCTS

with National Foam's selective orifice foam maker which allows the use of lower pressures to produce foam. The system can thus be adapted to meet existing water pressures without need of a booster pump.

The tower may be used with either Aer-O-Foam or chemical foam systems. It may be equipped with Moeller asbestos tube, if desired.

New G.E. Audio Amplifier for 2-Way Radio

The General Electric Company has announced a 10-watt audio amplifier and weatherproof loud speaker for use with mobile radio communications equipment.

The new units will provide radio-equipped vehicles with public address facilities for such uses as police, traffic control, supervisory control from fire vehicles at fire scenes, instruction of trainees on fire training grounds, etc.

The unit can operate as a public address system from the vehicle, or for hearing incoming radio messages while at a distance from the vehicle, or in noisy locations. In the latter use, incoming radio messages would be fed automatically through the amplifier and loudspeaker. This would not affect normal radio operation, according to G.E.

Two types are available, the EA-3-A for 6-volt operation, and the EA-3-B for 12-volt operation. The horn type speaker directs the 10-watt audio signal over an approximote 7-degree angle. The amplifier is shoe-box size and weighs 24 lbs. The control head, volume control and three position switch are dash mounted.

Harmonic distortion of the new amplifier is said by G.E. to be less than three per cent over the unit's entire audio range of from 200 to 6000 cycles per second. Battery drain is low (on standby, drain for the 6-volt type is 1.2 amp, for the 12-volt unit, 0.6 amp.); with plate voltage on, the 6-volt type draws 7.5 amp and the 12-volt type 3.2 amp.

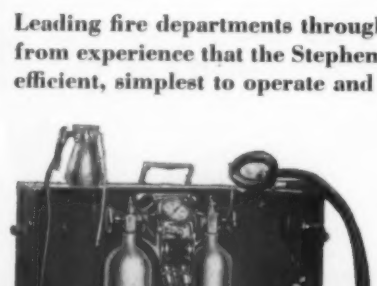
For further information on the new G.E. audio amplifier and loud-speaker for 2-way radio use, address Dept. N-15 Inquiry Section, G.E. Electronics Division, Electronics Park, Syracuse, N. Y.

Chief—

You know

Those few seconds that count in saving life are the ones between the rescue and the Stephenson Resuscitator.

Leading fire departments throughout the country have learned from experience that the Stephenson Resuscitators are the most efficient, simplest to operate and do most for patient.



Save Lives
Protect Your Community, Increase Your Department's Reputation and Prestige, With the New, Improved

STEPHENSON RESUSCITATOR

Be sure to see it at the International Convention in Toronto or write today for demonstration without obligation.

STEPHENSON CORPORATION
RED BANK NEW JERSEY

Alfco Introduces Bromochloromethane Extinguisher

A new 1-quart, trigger-operated extinguisher to provide extra protection against incipient Class B and C fires is now available from the American-La France-Foamite Corporation, Elmira, N. Y.

Model PCB-1, as it is known, is a stored pressure unit charged with bromochloromethane, more commonly termed as "CB" liquid, a fast-acting vaporizing liquid extinguishing agent that has proved effective on flammable liquid and electrical fires and is presently used by the U. S. Air Force in aircraft extinguishing systems and for portable extinguisher installations.

The new model is light in weight and designed for one-hand operation (it is aimed like a gun). According to Alfco, it is capable of operating satisfactorily at high and low temperatures, in sand, dust, humidity, or salt spray. It will not freeze down to —65 deg. F; it discharges 95% of its contents in any position.

Descriptive literature may be had by writing the Company.

Press Wireless Recorder-Reproducer

Press Wireless Manufacturing Co., Inc., Rockville, Conn., announces its Model RRP-24a Recorder-Reproducer to continuously record or transcribe voice frequency intelligence for an entire 24 hour period, or by utilization of voice actuated relay circuits, to record intermittently for a number of days.

Separate recording and playback amplifiers permit simultaneous playback of earlier recording while the machine is operating at its recording condition. A simple timing arrangement indexes the entire recording.

The complete story of this long-playing recorder-reproducer is told in a new circular which may be had by addressing the above.

New Plant Protection Bulletin

Quaker Rubber Corporation, Division of H. K. Porter Company, Inc., Philadelphia, has issued a new, full color, 6 page bulletin, describing their line of fire hose for industrial protection. Some of the fire hose described are: chemical and booster, single and double jacket cotton rubber lined, special flat folding type to conserve space, engine suction, forest fire fighting and many other types.

This bulletin, well-illustrated through cross-section and cutaway photographs, includes constructions, performance data, sizes, weights, working pressures and recommended uses. Information regarding the different types of couplings used with the hose is also included.

Republic Advances G. L. Smith

G. L. Smith, formerly Sales Manager, has been advanced to the position of General Sales Manager for the Republic Rubber Division, Lee Rubber and Tire Corporation, Youngstown, Ohio.

G. L. Smith

In announcing the appointment, E. M. Ikirt, Republic's General Manager, stated that the change was made necessary to more properly describe Mr. Smith's functions within the organization.

Mr. Smith joined Republic in 1923 as a territory salesman. In 1936 he was transferred to Youngstown as Assistant Sales Manager, became Traveling Sales Manager in 1945 and Sales Manager in 1946.

U. S. Rubber Appoints W. A. Tipton G. S. M.

Ernest G. Brown, vice president and general manager, mechanical goods division, United States Rubber Company, announces the appointment of Warren Tipton as general sales manager of the division.

A graduate mechanical engineer from U. of Ill., Mr. Tipton joined U. S. Rubber as a salesman in its Houston, Tex., branch in 1935. In 1937 he became product manager for packings and expansion joints. In 1942 he was appointed district sales manager for the mechanical goods division's New York branch and in 1949 was named manager of all branches with headquarters in the division's offices in Rockefeller Center. He became sales manager of the division in 1952.

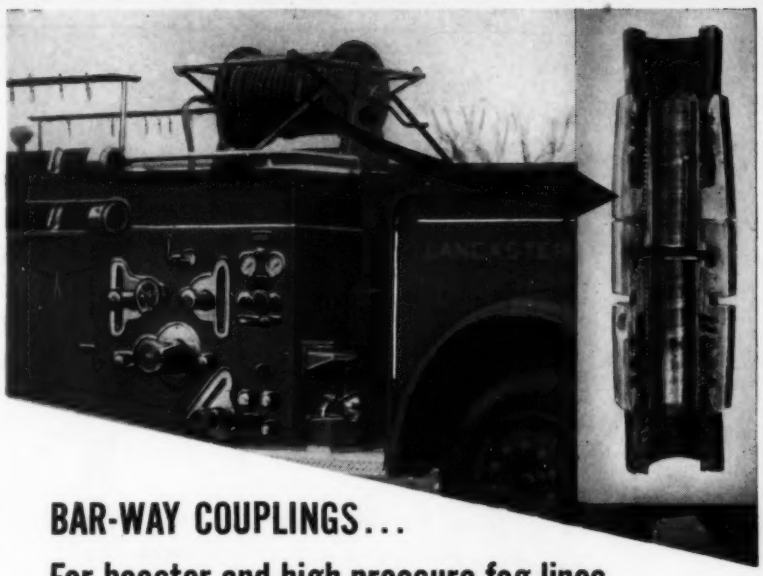
Mr. Tipton succeeds Walter F. Spoerl who began his rubber career in 1908 in Chicago sales office and who rose through successive stages to become assistant manager of branch sales for the division in New York. He became merchandise manager in 1944 and general sales manager for the division in 1946. He is a veteran of World War I.

Quaker Develops New Suction Hose

A new horizontal braided water suction hose, known as Revolc, has been developed by Quaker Rubber Corporation, Division of H. K. Porter Company, Inc., Philadelphia, it is announced by G. A. Dauphinais, vice-president and general manager.

The new product is designed for both pressure and suction handling of water. It is reinforced with two layers of braided rayon cord, plus a helix of high tensile spring steel wire, reinforcement layers being separated by a layer of rubber friction to eliminate internal chafing of reinforcement cords and wire.

It claimed for the hose that it is light



BAR-WAY COUPLINGS...

For booster and high pressure fog lines

There are four good reasons why the fire fighters specify BAR-WAY couplings. Four reasons why BAR-WAY couplings are growing in favour with firemen, hydraulic engineers and others who insist on the best.

- **SAFETY**—The coupling becomes the *strongest part of the hose line.* Tested to 3000 pounds pressure and 500 pounds pull.
- **FULL FLOW**—No suppression of flow in coupling. No shrinkage of hose at coupling.
- **FLEXIBILITY**—Reels smoother. Easily replaced. Nothing to catch on corners or underbrush.
- **BETTER MADE**—Accurately machined, always the same, interchangeable. WILL NOT FAIL.

Send for our free pamphlet. Gives detailed specifications for all types of pressure hose, ID and OD.

BAR-WAY MFG. CO., STAMFORD, CONN.

WEST COAST REPRESENTATIVE { W. D. RIGDON, 383 Sansome Street, San Francisco 7, Calif.

MORE **EFFECTIVE** FIRE PROTECTION

CITY • RURAL • FOREST

MODEL 6600 PUMPER—Instantly Self-Priming—No waiting when seconds count
HIGH PRESSURE—Use one or two hard-hitting streams or fire-blanketing fog-spray
LIGHT WEIGHT—Easily carried to source of water or fire area
NEOPRENE IMPELLERS—Pump dirty water as well as clean water—assure long life
POWER—Efficient 4-cycle, air-cooled 5 HP engine known and serviced world-wide

BY-PASS VALVE, SPRING LOADED
GREASE CUP, NO LOSS OF PRIME,
PLUS MANY OTHER FEATURES

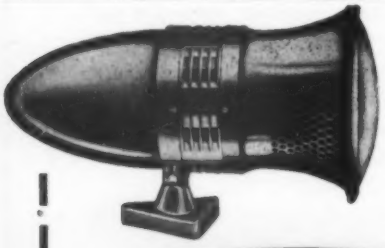
UP TO 40 GPM AT 150 PSI

Write for Bulletin 6600-F

WEIGHS ONLY 110 LBS.

MARINE PRODUCTS COMPANY
515 LYCASTE AVENUE • DETROIT 14, MICHIGAN

Next time I want to wear a Scott Air-Pak
Rescues are quicker and safer . . . the sources of fires are reached faster by the firemen who are protected with SCOTT AIR-PAKS. For full details see:
Scott
SAFETY EQUIPMENT DIVISION
AVIATION CORP.
215 ERIE STREET LANCASTER, NEW YORK



MODEL 20 SIRENLITE for Emergency Vehicles

Siren sounds a penetrating warning, red light automatically flashes authority. Traffic opens instantly, day or night. FREE ROLLING feature.

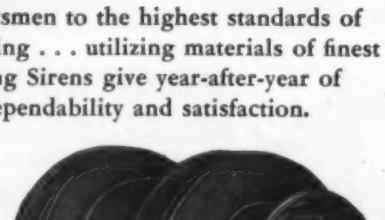
STERLING SIRENS

- **HANDSOME**
- **RUGGED**
- **RELIABLE**

Built by proud craftsmen to the highest standards of precision manufacturing . . . utilizing materials of finest quality . . . Sterling Sirens give year-after-year of unsurpassed dependability and satisfaction.

MODEL M GENERAL FIRE ALARM SIREN for Volunteer Systems

Quick acceleration, power-plus . . . Model M really gets the boys out in a hurry! Used by championship companies from coast to coast. A dependable, heavy-duty siren built of the finest materials throughout.



Complete line of Siren Equipment • *Bulletin on Request*

THE STERLING SIREN FIRE ALARM CO., INC.
10 BARTLETT ST., ROCHESTER 8, N. Y.

light in weight, will not kink or collapse, it maintains full opening in any position, and it can be grounded to eliminate static electricity. It is similar to Chernak type suction hose except that it is reported 50% more flexible, stronger and it can be coupled with any type of suction or water hose coupling. It is available in 1½-in. to 3-in. inside diameter sizes.

New Braxmar Badge Catalog Informative

The C. G. Braxmar Co., Inc., 216 E. 45th St., New York 17, N. Y., John O. Veit, president, has just issued a comprehensive catalog of official badges for fire departments and other services which, in addition to pictures and prices, contains data on taxes and exemptions with copy of exemption certificate to be used in ordering.

The Company, incidentally, in its 74th year, boasts being one of the first consistent advertisers in what is now FIRE ENGINEERING.

The new catalog, which measures 8½ x 11 inches, contains 32 pages and separate price list. It is available upon request.

Rockwood Eductor

The Rockwood Sprinkler Company of Worcester 5, Mass., has recently introduced a new eductor for proportioning foam liquid and wetting agent into hose lines. The eductor may be used either on hydrant or engine outlet, or in the run of hose.

Eductor for foam and wet water.

However, the maximum length of hose between the eductor and nozzle for use with foam liquid is 100 feet when the eductor and nozzle are at the same approximate level. The eductor will pick up the proper quantity of foam liquid over an operating pressure range from 75 to 175 p.s.i. at the eductor inlet. Where the eductor is being operated off a fire department pumper or other adequate source of pressure, an ideal operating pressure is 150 p.s.i.

Eductors are furnished in special models, 1½-inch and 2½-inch hose sizes, for use with wetting agents.

The eductor is provided with a female swivel coupling on the inlet side and a solid male connection on the discharge side. The pick-up tube incorporates a specially designed ball check valve to prevent flow of water to the liquid container when the nozzle is shut off.

E. Sterling Ingwaldson has been named Chief of the newly formed Thraill County Fire Department, headquarters of which are located in Buxton, N. D.

Obituaries

Chief Cecil R. Gehr Killed in Crash

Cecil R. Gehr, Chief Engineer of the Los Angeles County Fire Department, was killed July 14 when the car in which he was responding to a major brush fire was rammed amidships by an auto driven by a 20-year-old youth.

Chief Cecil R. Gehr

Chief Gehr, 51, was a 29-year veteran with the County Fire Department and only a few days before the crash was highly praised by the Los Angeles County Board of Supervisors for his work in controlling a 35,000-acre fire in the Angeles National Forest.

Ironically, the brush fire he was responding to started in another section of the same Angeles National Forest.

Chief Gehr was alone in his official car and proceeding with siren and lights along Hollywood Way in Burbank en route to the brush fire. Driver of the other car, James J. Beinrich, 20, of Burbank, suffered only minor chest and leg injuries. Police booked him on suspicion of manslaughter.

The youth, whose speed was estimated at 50 miles per hour by at least 15 witnesses, claimed he did not hear the wailing siren of Chief Gehr's car or see the flashing red light.

The impact knocked both cars nearly 100 feet and slammed both of them into a light pole on a service station lot. Chief Gehr was pronounced dead upon arrival at St. Joseph's Hospital, Burbank.

The brush fire was brought under control several hours later after blackening 300 acres near the $50,000 summer ranch of Movie Executive Cecil B. DeMille.

Death of Chief Gehr came as a severe blow not only to Los Angeles County Firemen but to Los Angeles City Fire Department officers and men who had deep respect for Chief Gehr's ability.

Although he had only been head of the Los Angeles County Fire Department since April, 1952, Chief Gehr's amazing tact and administrative skill contributed much to improving morale within the department. Chief Gehr extended and improved mutual aid systems between various departments in the county.

Chief Gehr, a career fireman, worked

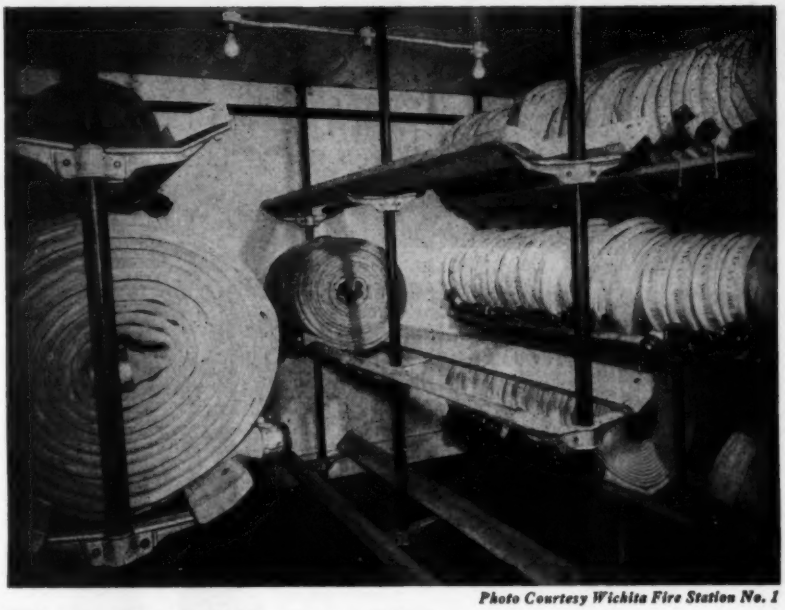
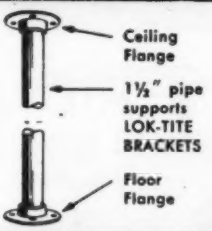


Photo Courtesy Wichita Fire Station No. 1

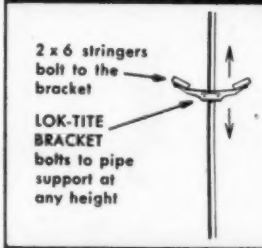
The Solution to Hose Storage Problems

FEATURES

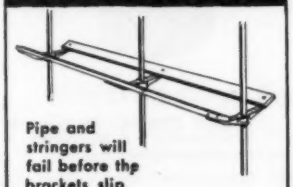
SIMPLE INSTALLATION



EASY ADJUSTMENT



BIG LOAD SUPPORT



Build Your Own Racks With Lok-Tite Brackets

MIGHTY few station houses have all the room they need for good housekeeping. Lok-Tite brackets help solve the hose storage problem by allowing ample ventilation and access in limited storage space.

Build your own racks with new or used materials. Design your own storage to take full advantage of the space available. Have ample room for fittings inspection and ventilation.

Lok-Tite brackets, light weight aluminum alloy, designed for strength and easy installation.

$3.65 F.O.B. Wichita

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Choose from a fine selection. The "Suit that Suits," known in every corner of the Globe!

GLOBE DURABLE FIREMEN'S **SUITS**

GLOBE MANUFACTURING CO. PITTSFIELD, N. H.

FIRE FIGHTERS

DEPEND ON

ATTWOOD HARDWARE

Fire fighting is an exacting occupation. One mistake may be the last.

Likewise, the manufacture of fire fighting trucks is a very exacting business. Every piece of equipment must be dependable to eliminate any chance of mechanical failure.

For many years Attwood has supplied over 90% of the fire equipment manufacturers with standard and special hardware and fittings.

Contact Attwood regarding the manufacture of equipment to your specifications.

ATTWOOD
BRASS WORKS
GRAND RAPIDS 4 MICHIGAN

his way up through the ranks. He joined the department on November 1, 1924. The following year he won promotion to engineer and the next year he was made an acting captain. In 1927 he was appointed a permanent captain and assigned to the Mountain Battalions in the Malibu area of the county.

In 1929 he was made Assistant Fire Warden and two years later transferred to the construction division. In 1941 Chief Gehr became a battalion chief in charge of Battalion 5 in the Malibu area. Eight years later he came into the Los Angeles Headquarters as Deputy Chief and succeeded Spence D. Turner who retired as chief in April, 1952.

Chief Gehr's official title was somewhat awesome: Chief Engineer of the County Fire Protection Districts and County Forester and Fire Warden.

He was known, however, as a "Fireman's Fireman." He was a past master at public relations and always found time at fires to describe progress of operations to newsmen, whom he realized had constant deadlines to meet. As a result of his cordial relations with the press, the Los Angeles County Fire Department was brought more fully into the public eye as the third largest fire department on the west coast, surpassed only by the City of Los Angeles Fire Department and the San Francisco Department.

Chief Gehr lived with his wife, Helen, at 2888 Nichols Canyon Road, Los Angeles, and is also survived by two sons, George, 23, of Tarzana, Calif., and William, 21, serving with the Army in Korea. Deputy Chief Keith E. Klinger, 42, was named acting chief by the Board of Supervisors. Chief Klinger has been in the department 19 years and is the son of retired Deputy Chief Walter B. Klinger.

PAUL C. DITZEL

Seth Cole, Fire Service Counsel, Dies

Seth Toby Cole, 67, died July 30, 1953, at his home in Catskill, N. Y. He was for many years counsel for the Firemen's Association of the State of New York, and was widely known for his knowledge of and identification with the drafting of state laws concerning volunteer firemen.

Mr. Cole was served as deputy Tax Commissioner from 1921 to 1933; was counsel to the State Commission for the revision of Tax Laws and was president of the National Tax Association in 1941-2.

H. A. Scharfenberg Dead

Harry A. Scharfenberg, acting manager of the Fire Apparatus Division, Mack Motor Truck Corporation, died June 15, 1953. He had been with the organization 33 years, beginning in June 1920 as a clerk in the sales department.

In 1924 Mr. Scharfenberg was transferred to the Public Works Department and two years later he became a fire apparatus salesman. In 1938 he was moved to Mack's Northeastern Division to assume responsibilities of Division Fire Apparatus representative.

Two years later he returned to the Home Office's General Sales Department, then located in Long Island City. In May of that year he was assigned to the Fire Apparatus Division, Home Office, where he remained for five

years, when he was appointed assistant manager of the Fire Apparatus Division.

In 1952, Mr. Scharfenberg moved to Allentown, Pa., when the Fire Apparatus Division itself was transferred to the factory location and on March 16, 1953, he was appointed acting manager of the Fire Apparatus Division.

His untimely passing has caused widespread regret among his many friends in the fire service, and in industry.

It is announced that Fred W. Beardslee, who was formerly manager of Fire Apparatus Division, has once again assumed direction of that Division, in addition to his present duties as vice-president and general manager of the Company's Export Division.

Persons in the News

Chief Wm. Meinheit, of Berkeley, Retires

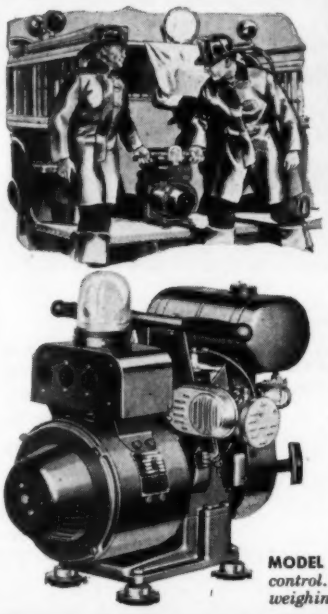
Chief William A. Meinheit, head of the Berkeley, Calif., Fire Department since 1941, retired on August 1, 1953, following a serious illness which struck him last year.

Chief William A. Meinheit

One of the most widely known and loved of the nation's fire chiefs, he combined rare ability with civic enterprise to become one of Berkeley's best known exponents. He is a past-president of the Pacific Coast Inter-Mountain Association of Fire Chiefs; a director of the International Association of Fire Chiefs, life member of the Berkeley Junior Chamber of Commerce, Native Sons of the Golden West, and innumerable other fire and civic organizations.

He joined the fire department March 4, 1914, as a substitute fireman. He was a captain at the time of the disastrous Berkeley fire of 1923, and in 1918 and 1919 he served with the U. S. Army. Throughout World War II he was fire coordinator for the nine Bay area counties. He was appointed Chief, September 12, 1941. Richard, his youngest son, is now a member of the department. He has an elder son Bill in the lumber business.

A banquet luncheon, honoring the retiring chief, was tendered him by upwards of 50 prominent civic and fire



KOHLER
ELECTRIC PLANTS
Independent Source of Electricity

Aids fire fighting and rescue work

Municipal and volunteer fire departments use portable model for floodlights, power tools, resuscitators, smoke eradicators, rescue equipment. Develops 1500 watts. Fits into small space. Equipped with 4 receptacles, pilot light, double carrying handle. Rubber-tired hand truck available. Other sizes, 500 watts to 30 KW. Also stand-by models to operate siren, signals, when central station power is cut off. Write for folder 8-M.

MODEL 1.5M25, *1500 watts, 115 volt AC. Manual control. Weight 130 pounds. Also 115 volt DC weighing 101 pounds.*

Kohler Co., Kohler, Wisconsin. Established 1873

KOHLER OF KOHLER

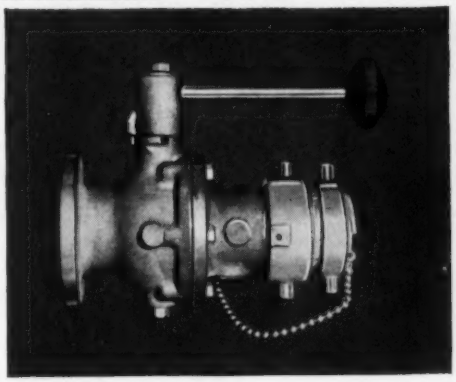
PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS
AIR-COOLED ENGINES • PRECISION CONTROLS

HALE TYPE "BL" SUCTION VALVES
Now Available

The Hale Ball Type "BL" Valve is now available as a Suction Valve, handy for use in pumping from hydrant or for relaying from one pumper to another.

Picture shows 2½" "BL" Suction Valve with pin-lug swivel and pin-lug plugs, with female National Standard Thread. Special threads (within range of casting) at slight extra cost.

Valve is also available with 2½" Navy-Type slotted swivel and slotted plug.



Above—View of 2½" Hale Ball-Type "BL" Suction Valve shown with female National Standard Thread and Pin Lug Plug and Chain. Plug and chain are optional.

Write today for detailed information on Hale "BL" Suction Valves. Ask for Bulletin #293.

Outstanding Features

- **Opens and closes easily at all pressures.**
- **Will hold high pressure or vacuum.**
- **Circular Venturi section through valve cuts flow loss to minimum.**
- **Not sensitive to dirty water.**
- **Easy and inexpensive to service . . . No "grinding in".**
- **Slight twist of handle locks valve into any desired position for gating.**

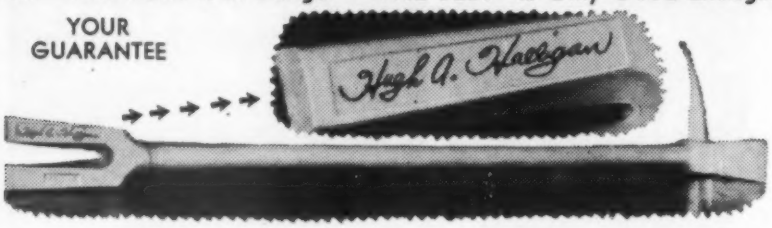
HALE
Fire Pump Co.
Conshohocken, Pa.

Hale Fire Pumps are built in all Standard Capacities.

Yes! It is an "Ugly Bar"

But—When Life Is in Danger—"THE BEST" Is Only Good Enough!

YOUR GUARANTEE



Listen to BOSTON, MASS., a Fire-Minded City

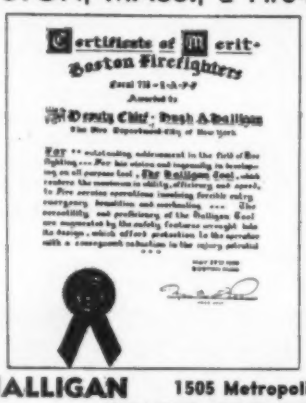
"All Purpose Tool"

"Maximum in Utility, Efficiency, and Speed"

"Safety Tool which reduces Injury Potential"

"Lowered Insurance 20%"

"Cut Fire Losses 21%"


Certificate of Merit
Boston Firefighters
Awarded to
Deputy Chief - Rush A Halligan
The Fire Department City of New York

Boston Protective Dept., March 14, 1953, Fire at 92-100 Chauncy St. 7 sprinklers on top floor operated.

This company opened 28 doors with this tool.

THEY PUT BACK INTO IMMEDIATE USE WITH LITTLE OR NO DAMAGE 26 OF THEM!

$36 f.o.b U.S.A.

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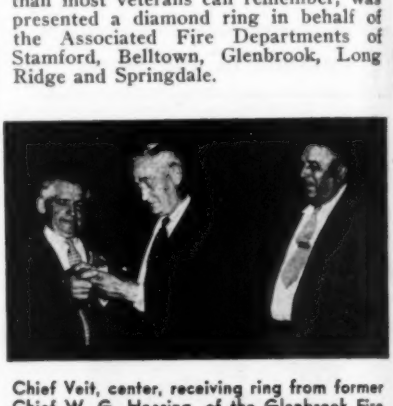
service officials on July 24 last. Included were City Manager John Phillips, Mayor Laurence L. Cross, Police Chief John Holstrom and Howard Le Strange, who has been serving as acting chief.

Chief Meinheit became department operator in 1920; lieutenant in 1923; captain in that year; second assistant chief in 1927; assistant chief in 1937; deputy chief in 1938, and chief three years later.

Chief Veit Feted at 80

Fire Chief Victor Veit was feted on his 80th birthday by 200 firemen, city officials and friends at a testimonial dinner July 23rd in St. Mary's School Hall, Stamford, Conn.

The Chief, who has headed the Stamford, Conn., Fire Department longer than most veterans can remember, was presented a diamond ring in behalf of the Associated Fire Departments of Stamford, Belltown, Glenbrook, Long Ridge and Springdale.



Chief Veit, center, receiving ring from former Chief W. G. Hearing, of the Glenbrook Fire Department, as Deputy Chief W. J. Densky, of Stamford, stands by.

Among the speakers who lauded the Chief and his service were former Mayor and Toastmaster, George Barrett; present mayor F. J. Quigley; Chief Stuart Potter of Greenwich, Conn., former president, New England Association of Fire Chiefs, who conveyed the felicitations of that organization; Chief Roi Woolley, assistant editor, FIRE ENGINEERING, who expressed the best wishes of the International Association of Fire Chiefs, and the Fire Chiefs Emergency Plan of Westchester County; State Trooper Thomas Dunn, for State Fire Marshal Edward J. Hickey, Hartford, Conn.; Rt. Rev. Msgr. John J. Hayes, pastor St. Mary's Church, and Rev. Stanley Hensley, St. Johns Episcopal Church.

The presentation was made by former Chief William G. Hearing of the Glenbrook Fire Department and Deputy Chief William J. Densky of the Stamford Fire Department.

Chief Veit was further honored two nights later by being the first 80-year-old guest to appear on the TV Program "Life Begins at 80."

Chief Pacchetti Honored

Fire Chief William Pacchetti, popular head of the Seaside, Calif., Fire Department, was tendered a testimonial dinner May 26, last, by the Seaside Chamber of Commerce, at the Casa Blanca, seaside, wih a hundred friends and guests attending.

Leon Edner, president of the Chamber, presided and Dr. Joseph Blacow of the Monterey Peninsular College was guest speaker. The chief was identified

with the rapid growth of the community and roundly praised for his unselfish service.

Chief Pacchetti's family were also guests and present when he was presented a gift of honorary membership in the Chamber of Commerce.

Buffalo, N. Y., Fire Chief Runs for Mayor

Harold R. Becker, Buffalo, N. Y., Fire Commissioner, has been endorsed by the Republican Executive Committee for the nomination of mayor in the city's September primary.

Commissioner Becker, named one of Buffalo's 12 most outstanding citizens in 1951, has been commissioner since Jan. 1, 1950. He also is coordinator for the Erie County Mutual Fire Aid Program. Becker, 54, joined the Fire Department on Feb. 15, 1925. He was made a lieutenant on Jan. 1, 1933; captain on July 16, 1936; battalion chief, Jan. 1, 1941, and deputy commissioner in 1945.

PAUL C. DITZEL

"Les" Thornton Leaves N. P. A.

A. Leslie Thornton, Sr., former Chief of the Protective Equipment Branch, Scientific and Technical Equipment Division, National Production Authority, Washington, D. C., recently severed his connections with that organization to enter private business.

He has become associated with the Pyrene Manufacturing Co. and the Elkhart Brass Mfg. Co. in the capacity of a special Washington representative. His activities will not be in the sales field, but rather in the nature of a "trouble shooter," customer relations consultant and fire protection promoter, whether the last named involves products manufactured by the companies with whom he is associated or not.

He will be located at 931 Washington Building, 15th Street and New York Avenue, N. W., Washington. D. C. (telephone National 8-8442).

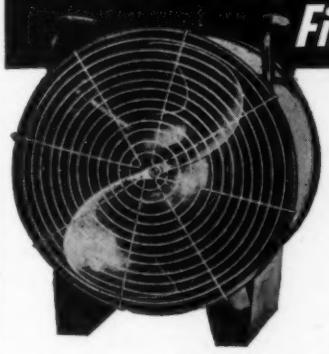
What's Burning

THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of July, 1953.

Month Ending July 31, 1953

Mobile, Ala.—Boathouse and three yachts destroyed at Choctaw Point.
Monroeville, Ala.—Wood Products Co., furniture manufacturers, damaged.
Monticello, Ark.—Building housing Drew Theatre, Gates Beauty Shop and Drew County Selective Service office, destroyed. Lightning.
Nashville, Ark.—Building housing Plaza Cafe and studios of photographer Edward Ramage, also storage room used by Easy Pay Tire Co., destroyed. Adjoining building occupied by Ball Chevrolet Co. damaged.
Altadena, Cal.—Johnson Lumber Co.'s yard destroyed.
Delano, Cal.—Thomas Tractor & Equipment Co. damaged.
Fortuna, Cal.—New sawmill at Hansen-Pacific Lumber Corp. yard, destroyed. Spontaneous ignition.
Fresno, Cal.—Brix Apartment Building, destroyed. Arson.
Fresno, Cal.—Hughes Hotel destroyed. Arson.
Fresno, Cal.—California Products Co. processing plant and warehouse, damaged.
Los Angeles, Cal.—Beverly Hills homes of Edward Powell and Harry Prezant, destroyed. Dwelling of Alvin Asher, damaged.
Los Angeles, Cal.—Dye Craft plant in downtown section, damaged.

Revolutionary New Principle Increases Fire-Fighting Efficiency!



● The Super Vacuum Smoke ejector is a powerful portable fan unit designed especially for fire departments. This design is a new and revolutionary principle in moving air. Several thousand Super Vacuum Smoke ejectors are in use throughout the United States and Canada. Controlled ventilation is new and very necessary in fire fighting. Years of service and satisfied users are your best guarantee for any merchandise.

THE HEART OF THE SUPER VACUUM

● The secret of Super Vacuum is the patented fan blade. Conventional fans chop the air and push it back. Whereas the Super Vacuum fan blade is a perfect spiral air screw which creates a partial vacuum, suction is created over the entire face of the blade and the air or smoke is discharged in a high velocity spiral. There are no dead spots—that is why Super Vacuum outperforms other fans twice its size.

Write for Additional Information or Contact Your Local Fire Equipment Dealer

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The "CLIFTON"
(No. 900—Regulation)
In Plastic

Regulation 8-comb style, with standard front; made of FLINT-FLEX, the rugged plastic that is light, tough, flexible and non-conducting; has the new FORMABLE HEAD BAND that can be moulded to your own particular head shape; complete protection at moderate cost. Also available in drop brim style.

Write for Catalog 341

CAIRNS & BRO., Inc.-Allwood, Clifton, N. J.

FIRE HELMETS

PROTECTION
with
Freedom of Movement

A SCIENTIFICALLY BUILT
SAFETY SUIT

New design and construction. NOT an "asbestos suit" but a scientifically compounded garment utilizing the most modern insulators against heat, fibre glass, aluminum foil, vinyl-treated glass cloth *and* asbestos. Tested under actual field conditions in temperatures ranging from 350 deg. F. to 1800 deg. F.—with and without respiratory protective equipment.

Get the I.S.S. Safety Suit that is making good in the fire service; at airports; in industry—wherever personnel must be protected against searing heat. Complete literature is yours for the asking.

Also manufacturers of protective clothing and asbestos blankets 4' x 6', packed in handy permanent carrying cases.

INDUSTRIAL SAFETY SPECIALTIES CO.
PERKASIE • PENNSYLVANIA

Los Angeles, Cal.—Conrad Hilton estate building damaged.
Monterey, Cal.—Monterey grammar school destroyed.
Oakland, Cal.—Hothouses of N. W. Curson Nursery, damaged.
Oakland, Cal.—Chimes Market warehouse destroyed. Children with fireworks.
Paso Robles, Cal.—Elementary school destroyed. Faulty wiring.
Rocklin, Cal.—Rocklin Lumber & Milling Co. plant destroyed.
San Francisco, Cal.—Thompson Brothers Drayage Co., Terminal Freight Lines building and six Diesel trucks, waterfront, destroyed.
Sonora, Cal.—Sonora Bowling Alley damaged. Spontaneous ignition.
San Mateo, Cal.—Pabco Paint Co. store and warehouse damaged.
Willits, Cal.—Wamitch Timber Co. sawmill destroyed.
Denver, Colo.—Manual High School destroyed. Defective wiring.
Brookfield, Conn.—The Brookshire, a dine and dance cafe on Route 7, destroyed.
Farmington, Conn.—Three dairy barns, Town Farm road, destroyed.
Altamonte Springs, Fla.—Altamonte Hotel destroyed.
Fort Myers, Fla.—Palm-Nash Motors building destroyed.
Atlanta, Ga.—Rushton Co. factory damaged.
Douglas, Ga.—Haley-Cowart Ford agency destroyed.
Antioch, Ill.—Regal China Co. factory destroyed.
Batavia, Ill.—Lindren Foundry Co. containing wooden patterns for foundry dies used in defense work, destroyed.
Chicago, Ill.—Building occupied by Witzke's Bakery, Louis's Liquor Store, Jimmy's Northwest Restaurant, Jalin's Snack Shop, shoe store, Silhouette Lounge, sewing shop, damaged.
Herrin, Ill.—Building housing Owen & Gill Motor Co. auto sales and body shop, destroyed.
Kankakee, Ill.—Mang Motors garage in downtown section, destroyed.
Stickney, Ill.—Stables at Hawthorne race track destroyed.
Berne, Ind.—Dunbar Furniture Corp. plant destroyed.
Indianapolis, Ind.—Building housing Canary Cottage Restaurant and Bar, destroyed.
Madison, Ind.—Hilbilt boat factory and Hill's Hobby Harbor destroyed.
LaPorte, Ind.—Building of Bortz Seed Store and Hatchery, west edge of business district, damaged.
Ashland, Ky.—No. 1 refinery of Ashland Oil & Refining Co., nearby Leach Station, damaged. Welder's torch.
Franklin, Ky.—Warehouses and offices of Lucas Seed Co., destroyed.
New Orleans, La.—Combination garage-service station-residence housing the Kenner Motor Co. and nine automobiles; adjacent Buidry Barber Shop damaged.
Bridgeton, Me.—Board sawmill of H. H. Bisbee, damaged.
Brunswick, Me.—Enlisted Men's Mess Hall at Brunswick Naval Air Station, destroyed.
East Deerfield, Mass.—Two farm homes of Peter Melnik and George Melnik, destroyed. Fireworks.
Quincy, Mass.—Building housing Gallagher News Co., Pay-and-Take Food Shop and Station Five-and-Ten, damaged.
Rehoboth, Mass.—Farm buildings on Philip Pomeroy, Kinne Farm, destroyed.
Somerville, Mass.—Lumber yard of Charles Seebeck and buildings of Stuart Chaffe and Builders & Hardware Corp., damaged.
Birmingham, Mich.—St. James Episcopal Church, adjacent Sunday School, damaged.
Clarkston, Mich.—Two storage buildings at Ford Hospital branch, destroyed.
Merrill, Mich.—Sacred Heart Catholic Church destroyed; two nearby dwellings damaged. Lightning bolt.
Royal Oak, Mich.—Dry cleaning plant damaged. Short circuit.
Saginaw, Mich.—Universal Metal Fabricators, Inc., destroyed.
Sault Ste. Marie, Mich.—Armstrong's Gift Shop, Coulter's millinery, Berish Brothers department store, Trombley's jewelry and Sault Gas Co., office, damaged.
Thompsonville, Mich.—Modern Lumber Co.'s main building, destroyed.
Three Rivers, Mich.—American Laundry Co., Inc., plant destroyed.
New Brighton, Minn.—155 millimeter shell manufacturing building at Twin Cities arsenal, destroyed.
Waltham, Minn.—Grain elevator of Commander Elevator Co. destroyed.
Columbus, Miss.—Mississippi State College for Women dormitory destroyed.
Crystal Springs, Miss.—Four buildings occupied by Goodyear Tire & Rubber Co., J. H. Thomas & Sons Co., a barber shop, beauty parlor, destroyed. City Drug Store, Boacles Department Store, TWL, a variety store, damaged.

McINTIRE GATE VALVES

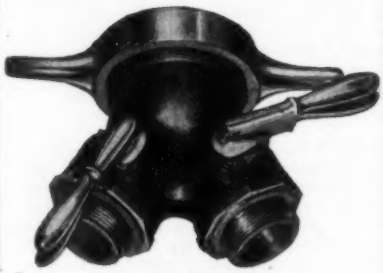

Fig. 164AN
4½" swivel female x two 2½" male Gated Siamese. Quick opening, ¼ turn valves.

Fig. 163
Made either Right Hand or Left Hand 2½" male x female, gate valve.

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FOR FREE CATALOG WRITE DEPT. No. 27

The SIRENO COMPANY, Inc.
216 WILLIAM ST., NEW YORK 38, N. Y.

St. Louis, Mo.—St. Mark's Roman Catholic Church damaged.
Wellston, Mo.—Ashby Manufacturing Co. plant damaged.
Hamilton, Mont.—Safeway store damaged.
Missoula, Mont.—Folsom Co., farm implement plant, destroyed. Spark from an electrical welder.
West Glacier, Mont.—O. L. Greenwalt Cabin Camp and Laundry on Lake McDonald, destroyed.
Claremont, N. H.—Seven farm buildings destroyed.
Salem, N. H.—Lumber and building supplies firm, branch of L. Grossman Sons, Inc., destroyed.
Atlantic City, N. J.—Morris Guards Armory damaged.
East Paterson, N. J.—Ten garages used as office and storage quarters of Elmwood Garden Apartments off Route 4, damaged.
Montclair, N. J.—Factory of Quiet Automatic Burner Corp., destroyed.
Newark, N. J.—Gelardi Supermarket damaged.
Newark, N. J.—St. Bridgets Roman Catholic Church destroyed.
Pitman, N. J.—Building occupied by H. F. Lanahan, Inc., destroyed.
Plainfield, N. J.—A. M. Griffen & Co., general hardware, destroyed.
Union City, N. J.—Candy factory of Butter Cream Confectionery Corp. destroyed.
Farmington, N. M.—New Stanolind Oil Co. gas well in rich Blanco area of San Juan gas field, damaged.
Springer, N. M.—Marker Motor Co., destroyed; nearby Scholenbarger & Cazola warehouse and Calloway store, damaged.
Bombay, N. Y.—Sunny Acres livestock sales barn destroyed. Spontaneous ignition.
Brooklyn, N. Y.—Anchor Sales Corp. and Anchor Lumber Co., damaged considerably.
Glen Head, L. I., N. Y.—Glen Head Country Club, formerly the Women's National Golf & Tennis Club, destroyed. Defective electric wire.
Harris, N. Y.—Gross American House, a resort hotel, destroyed.
Ithaca, N. Y.—Robinson-Carpenter Lumber Co. lumber yard and adjacent Lehigh Valley Hotel damaged.
Mineola, N. Y.—Building housing Mineola Restaurant, Kahn's Pharmacy, Mineola Market and about 20 apartments, damaged.
New York, New York—Coopers Cut Rate, ladies' men's and children's wear; F. & K. Bakery; E. Wright delicatessen and restaurant; Klekner Art Gallery; Larry's Carpets, Rugs & Linoleums; Ricky's Bootery, shoe shop; C. Frishman, dealer in pants and sportswear and Pollaks Toy Center, dealers in toys and house furnishings, considerably damaged.
Rochester, N. Y.—Speaker Furniture Store destroyed.
Rosendale, N. Y.—Williams Lake Hotel destroyed.
Charlotte, N. C.—Picker X-Ray Co. destroyed.
Clayton N. C.—E. M. Ellis & Co., mercantile establishment, destroyed.
Greensboro, N. C.—Grain Feed Mills destroyed.
Statesville, N. C.—Rocklin Veneer Co., destroyed.
Cincinnati, Ohio—Screw Machine Specialty Co. damaged. Match ignited volatile fumes.
Cleveland, Ohio—Butler Bros. warehouse damaged.
Lorain, Ohio—Lorain Products Corp. rectifier department, destroyed. Plant specializes in the manufacture of equipment for telephone offices.
Malvern, Ohio—Dover Ceramic Co. plant between here and Waynesburg, destroyed.
McDermott, Ohio—Three buildings, loading platform and equipment at Wall Bros. building stone quarry, damaged. Sparks from steam shovel.
New Philadelphia, Ohio—Cummins Diesel Corp. service plant, destroyed.
Willard, Ohio—Building occupied by paint store, apartments upstairs, destroyed. Fink Furniture Store and Temple Theatre in adjacent building damaged.
Lowell, Ore.—Butts Lumber Co. damaged.
Portland, Ore.—Westco Waterpoints plant damaged. Overheated motor.
Portland, Ore.—Northwest Candle Co., Inc., destroyed.
Yoncalla, Ore.—Davis & Sons saw mill destroyed.
Braddock, Pa.—Hollander's Pharmacy building, destroyed.
Coudersport, Pa.—Ancor Toy Co. plant destroyed.
Philadelphia, Pa.—Newly-built business building, Thirtieth and Noble streets, damaged.
York, Pa.—Warehouse office building occupied by Home Insulation Co. of Pennsylvania, H. M. Rehmeyer Co. and York Shipley, Inc., damaged.
Houston, Tex.—Wahlberg-McCreary Co. building, a wholesale auto parts firm, damaged.
Rotan, Tex.—Half a business block, including Coboy Bank building; Parker & Vittow's barber shop in building owned by Mark Strickland; Moon Drug Store; a real estate office next door, and a dry goods store, the Fair, destroyed.

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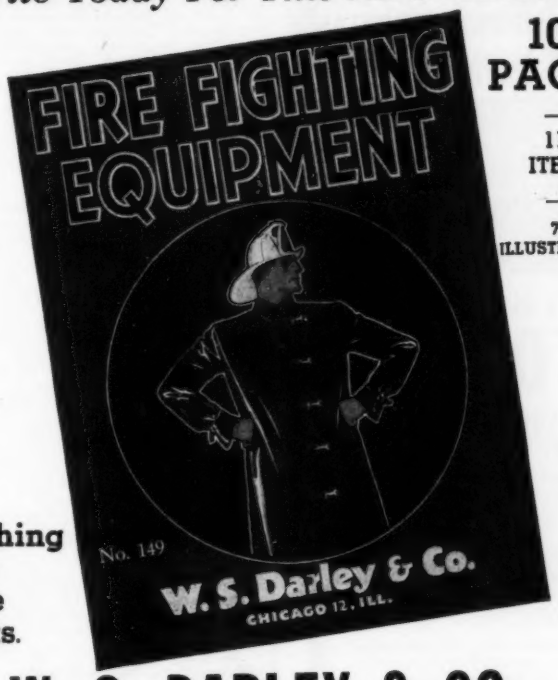

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★ Extremely quiet-running
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You can't match it anywhere in performance, equipment or value. The sensational new Onan 10CW gives you everything you've wanted in an electric plant plus exceptional mobility for a unit of its capacity.

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Models for standby use available.

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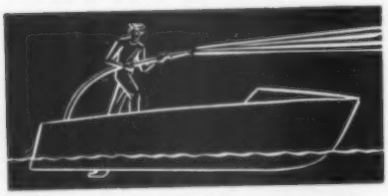

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BODY-GUARD MANUFACTURING CO.
ST. JOSEPH - - MISSOURI

Fort Belvoir, Va.—Special services recreation building, used for community meetings and functions, destroyed.
Hampton, Va.—Automobile Storage Warehouse used by William Thompson Pontiac Co. and Imperial Car Distributors, Inc., Johnson Motor Court apartments, blacksmith shop and another warehouse, destroyed.
Hampton, Va.—Hunt & Son fertilizer plant, damaged.
Reedville, Va.—McNeal Co., Inc., fish processing plant, destroyed.
Richmond, Va.—City Wharf, Dock street, James River, destroyed. Discarded lighted cigarette.
Richmond, Va.—Mitchell & Hotchkiss, printers, damaged.
Bellingham, Wash.—Fairhaven Hotel destroyed.
Clarkston, Wash.—Safeway store damaged. Defective refrigeration equipment.
Dayton, Wash.—Standard Oil Co. offices and warehouse, destroyed.
Ephrata, Wash.—Town Tavern destroyed. Cigarette.
Moses Lake, Wash.—Warehouse of Utah Idaho Sugar Co. destroyed.
Spokane, Wash.—Segerstrom Fruit Cold Storage plant destroyed. Asphalt explosion.
Tacoma, Wash.—Safeway store destroyed.
Tacoma, Wash.—McChord Air Force Base commissary destroyed.
Vancouver, Wash.—Persian Restaurant and four adjoining businesses destroyed.
Walla Walla, Wash.—Birdseye Packing Co. destroyed. Spontaneous ignition.
Yakima, Wash.—Ritchie and Gilbert Fruit Packing plant damaged.
Leechtown, B. C.—Sooke Lake Lumber Co. mill destroyed.
Mitchell Island, B. C.—Fraser View Sawmills Ltd. destroyed.
Vancouver, B. C.—Canadian Creosote Co., destroyed.
Transcona, Man.—Power sub-station, nine miles east of Winnipeg, damaged. Lightning bolt.
East Saint John, N. B.—Pier owned by National Harbors Board destroyed and Imperial Oil Co. damaged. Acetylene torch.
St. Catharines, Ont.—Sterling Electric Ltd. plant destroyed. Explosion in varnish tank.
Smiths Falls, Ont.—Upper floors of Clark & Lewis Hardware Store, destroyed.
St. Joseph de Beauce, Que.—Warehouses of Joseph and Archelas Perron, destroyed.

Book Shelf

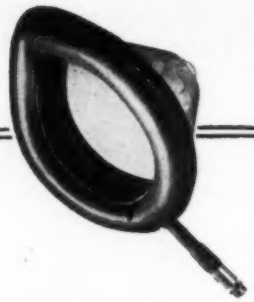
DISASTER ON YOUR DOORSTEP by Paul W. Kearney, Harper & Brothers, New York, N. Y. 210 pages, $3.00.

The author, who is no stranger to readers of FIRE ENGINEERING, pulls no punches when it comes to pinning down the causes and costly results of uncontrolled, destructive fire in this nation. His is a hard-hitting indictment of careless inspection, political corruption in the administration of fire departments, complacency and indifference on the part of those most responsible for controlling and preventing fires, faulty building, obsolete fire fighting facilities, inadequate and sloppily enforced fire prevention laws, and public apathy toward the growing fire waste.

What that famous old crusader, T. Alfred Fleming, did from rostrum and pulpit to alert the nation in its life and death struggle with the enemy that shows no quarter, Paul Kearney has tried to do with his pen. It is a pity there are not many more such evangelists.

"Disaster on Your Doorstep" is not merely a tocsin of complaint and warning. It is a factual, documented if shocking, history of fire incidents and tragedies told largely from the viewpoint of the fire fighter and fire prevention engineer as only the author can do it.

Although Paul Kearney dwells heavily on the causes and effects of fire in slaughtering human lives and destroying property, he gives credit to the constructive work that is being done to hold the huge fire losses to their present limits. He describes the progressive efforts of the fire service of the nation to meet the challenge imposed by our chemical



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and atomic eras. And he includes in his text valuable suggestions as to what the individual citizen can do to help combat fire losses and save lives, by offering a positive program for stimulating interest in and public action on this problem.

The editors of FIRE ENGINEERING are glad to have been of some assistance to the author in the preparation of this expose of fire losses and recommendations for their cure. This is a text which should be within arm's reach of every fire officer and fire protection and safety student for ready reference.

Philadelphia Fire Captain Killed

Captain James Meskill, 42, of Engine 21, Philadelphia Fire Department, was killed and 20 other firemen, including Battalion Chief John Vivian, 48, were overcome by acrid fumes and smoke, while fighting a fire on July 24th in a one-story brick building being completed for a meat-packing firm.

The smoky, toxic fire was reminiscent of the recent brewery building fire in Newark in which several workmen perished. The building involved, recently completed at 3rd and Noble streets, was mostly taken up by a 40 x 75-foot refrigeration room, insulated on the walls, ceiling and floor by cork. It was in this room that fire broke out about 3:30 A.M. from an undetermined cause.

A passerby saw smoke, and ran to the fire station at 2nd and Green streets, and Engine 21, headed by Captain Meskill, responded. The officer, after sizing up the situation, pulled a box, bringing three more companies to the scene.

Acrid smoke, rising from the insulation, hindered the fire fighters, and breathing apparatus was donned to protect the men working in the fumes. As firemen were affected by the heat and fumes, additional forces were summoned from the Juniper and Race street station.

The fire was brought under control shortly before 8:00 A.M., but an hour before this the body of Capt. Meskill was found by members of his company lying in a shallow pool of water, about 15 feet from a doorway.

The officer was given oxygen and rushed to Einstein Center hospital but efforts at revival were unsuccessful.

Additional Exhibitors at I.A.F.C. Conference

Since the publication of the names of the exhibitors at the Toronto meeting of the International Association of Fire Chiefs, five more have been received. These include the following:

D. B. Smith & Company, Utica, N. Y.
John J. O'Brien, Scituate, Mass.
Bi-Lateral Fire Hose Company, Chicago, Ill.
Canton Containers, Inc., Canton, Ohio.
Brooklyn Fibre Broom Co., Inc., Brooklyn, N. Y.

Kite Kills F.D. Maintenance Man

George J. Hollister, 35-year-old East Meadow, L. I., Fire Department maintenance employee, was killed by an electric shock through an aluminum wire kite string June 28 last, after his daughter and a group of playmates had asked him to fly the kites for them.

It was at first believed that Hollister had suffered a heart attack but questioning by police disclosed he had been killed when the kite went into a steep dive, drawing the string across some high tension wires.

Insist On Wentworth "HEAD-MASTER"

Over 500 Stores, Uniform Manufacturers, and Fire Equipment Dealers in the United States and it's Territories, handle the "Head-Master" line of Uniform Caps. If your uniform dealer does not have "Head-Master" Uniform Caps, TELL him to write to us for complete information

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NEW UNIFORM CAP CIRCULAR SHOWS OVER 25 DIFFERENT STYLES. . .
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SALVAGE PROTECTION
that does the job better, safer!

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- Won't crack when cold or get stuck when hot!
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- 12′ x 14′, 12′ x 18′, 14′ x 18′.

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CHECK THE FEATURES . . .
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Ohio Conference

(*Continued from page 642*)

David, Safety Director, Federal Reformatory, Chillicothe, Ohio; Robert R. Young, Fire Chief, The Youngstown Sheet & Tube Co., Youngstown, Ohio; Alva Plue, Fire Chief, The F. W. Wakefield Brass Co., Vermilion, Ohio.

The other group was a combined group headed by Chief Barr of the Columbus Fire Department and Chief Harshman of the Dayton Fire Department. Their subject of material revolved around "Instructor Training for Key Personnel of the Industrial Fire Brigade," and the "Steps and Procedures to Follow in the Formation of Industrial Fire Brigades." One afternoon session was devoted to afternoon work which was conducted by the Columbus Fire Brigades Association Squads, from the Columbus Division of Fire and the Training and Demonstration Units of the State Fire Marshal's Office.

Everyone in attendance felt that it was a very successful conference. There were a few new organizations represented, who, because of instruction received at the conference, were able to return to their industries and set up fire brigade programs in their plants, while the persons who had attended the conference before felt they would be more capable of not only protecting their plant, but supervising a fire prevention program as well. Too often people in industry and other fields fail to realize that a fire prevention program is more of a safety program and revolves more around this phase than the fire protection phase.

L. E. SHINGLEDECKER

June Fire Losses

Estimated fire losses in the United States during June amounted to $67,644,000, it was reported by the National Board of Fire Underwriters.

According to Lewis A. Vincent, NBFU's general manager, this $67,644,000 loss represents an increase of 15.5 per cent over losses of $58,585,000 reported for June, 1952, and an increase of 5.3 per cent over losses of $64,239,000 for May (1953).

Losses for the first six months of 1953 now total $432,081,000, an increase of 6.8 per cent over the first six months of 1952, when they amounted to $404,653,000.

These estimated losses include an allowance for uninsured and unreported losses.

29th Illinois Fire College Made History

The 29th Illinois Annual Fire College, held at the University of Illinois, June 15-18 last, broke all records, according to R. W. Alsip, secretary, Illinois Firemen's Association, Inc.

Total attendance was 557. The University of Illinois issued 262 Certificates and it is reported 321 Diplomas will be given out for the four-day session.

The busy technical sessions were heavily attended as were the out-of-door evolutions. Highlight of the School was the field demonstration of indirect fog application.

Richard (Dick) Vernor, Western Actuarial Bureau, and Chairman of the Fire Department Instructors Conference,

NEW! AL! 360 degree fresnel light!

Originally designed bracket fits the side contour of cab roof. Ideal for ambulances. Use in pairs with alternating flashers.

$30.00
per pair with flasher.

ARGUSLITE CO.
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***"Ranger"* FLAME-PROOFED FIRE FIGHTING TOOL**

A necessary part of every Fire Company's equipment is the Fire Fighting Broom. This is the B-E-S-T!

Look at these features:

- ★ Flame Proofed Fibres
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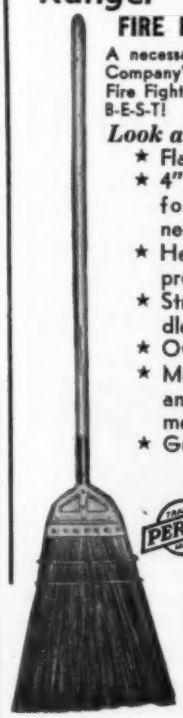
- ★ Guaranteed



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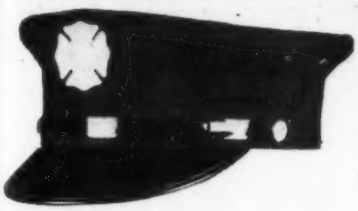

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YOUR cap is the most distinctive part of your uniform, be sure to specify the best.

ASK your dealer to supply BRUNSSEN'S Helmet Brand Firemen Caps or write to us direct.

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INCORPORATED
Manufacturers of Uniform Headwear for Hard Wear
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COMBINATION EXPANDER
6 FEATURES IN 1
Expander for Hose Sizes from ¾" to 3"
Greater Expansion Greater Economy
Easy to operate
Segments Furnished with Adjustable Spacer
Visual Indicator to Determine Amount of Expansion
BE PREPARED FOR ANY EMERGENCY
THE COST IS LOW
Send for Illustrated Bulletin
Dayton Fire Equipment Co.
1242-48 W. 2nd St., Dayton 7, Ohio

was the four-day Chairman of the College.

Dates for the 30th Illinois Fire College will be June 21, 22, 23 and 24, 1954 at the Gregory Hall Building, University of Illinois, Champaign-Urbana, Ill.

Uncalculated Cause

Include in the file of "unusual fires" this item. A girl operator of an electrically operated calculating machine was attempting to clean the instrument. She wrapped a small piece of cotton around the end of a pencil and dipped it into a bottle of flammable cleaning fluid so that she could clean out the spaces between the keys.

The electric connector-plug had not been disconnected and apparently a spark from the motor ignited fumes which had found their way into the housing of the machine.

Fire flashed up and spread to the machine's keys, which were reported made of cellulose nitrate, itself highly flammable. The blaze, which resulted, flared several feet into the air, burning the operator's hair and face.

Paging the Police

The addition of radio has facilitated calling police who may be needed at an emergency responded to initially by firemen only, and for which no special police broadcasts have been sent out. It is customary in many cities for police to broadcast box fire alarms and for certain police units, such as traffic or patrol vehicles, to respond, so that personnel may be of assistance. But in many cities no police respond on "stills" or "locals."

The officer of a radio-equipped fire rig may quickly summon special police details through his mobile radio, via the fire department radio dispatchers, should police help be desired under these circumstances.

Philadelphia Fire

(*Continued from page* 638)

equipped with large and small fog nozzles.

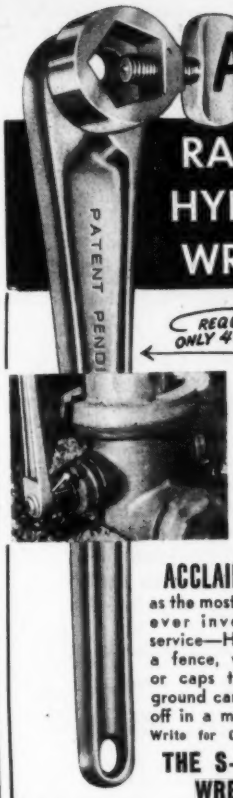
Fog proved ineffective because of the inability for any fog pattern to penetrate deep into the burning debris. The next question was foam, and fog foam. Although skeptical of their effectiveness on this particular application, Chief Hink and the Commissioners deemed the effort well worth the try, provided sufficient foam could be laid to blanket the affected area.

In this effort two steps were taken: the first was to order out of its "wraps" the department's top-secret SS-100 (Special Service unit). This unit, although about ready to go into service, had not had its performance tests and details of its construction remained a secret except to the top brass of the Fire Bureau.

The next step was to dispatch an emergency appeal to the Philadelphia Naval Base, Frankford Arsenal, Barrett Chemical Co., Atlantic Refining Co. and the Pennsylvania Railroad, for reserve stores of foam for the experiment.

Foam Only Partially Effective

Within minutes of the appeal, a huge tractor-trailer combine from the Naval Base arrived under the wailing sirens of a police escort and Navy men went into



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REQUIRES ONLY 4" SWING!

OPENS ANY HYDRANT or GATED HYDRANT

FASTER and EASIER to OPERATE

ACCLAIMED BY ALL
as the most practical wrench ever invented for quick service—Hydrants too near a fence, wall, utility pole or caps too close to the ground can be turned on or off in a matter of seconds.
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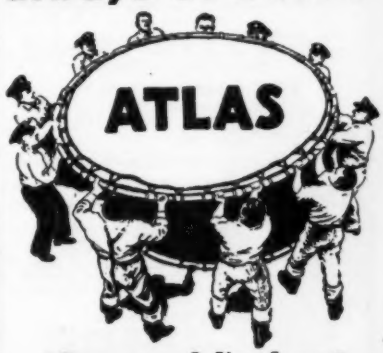

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action alongside the firefighters. Both types of foam, chemical and mechanical, were applied and while they were effective on the fringe and flowing fires, it was impossible to effectively blanket the main blaze, and the experiment was given up and straight streams reverted to.

On Tuesday fog was tried again, using the 500 GPM and 190 GPM fog nozzles. This also met with failure as the fire continued to gain headway, and again straight streams were substituted. It was at this juncture that the possibilities of employing a wetting agent, or penetrant, were weighed and the decision made to give it a try. Although wet water was not generally used by the department, it had been experimented with, and the new Special Service unit was designed for its use as well as for fog, foam and fog-foam. At this particular period, the possibilities of employing a wetting agent in volume—as an additive in straight streams of any size—were nebulous to the Philadelphia fire department as they were to most municipal fire departments, and even to manufacturers of wetting agents. Surface tension reducing agents (wetting agents) had been and were being widely used in large-scale water fog applications but thus far no department had demonstrated its use in water streams larger than booster or 1½-inch lines. Thus Chief Hink and his men had no criteria to guide them.

Local representatives of the Rockwood Sprinkler Co., one of the manufacturers of wetting agents used by the fire service, offered to supply their product in quantities for the experiment. Stocks were at once shipped from Worcester, Mass., and Linden, N. J., and using these with local supplies, the Special Service unit was hooked up and, at 10:00 A.M. EST Wednesday, the first application was made, using a 2½-inch line with regulation 1¾-inch nozzle. Pressure was held at about 75 PSI throughout this and other applications. One 2½-inch line was put in service at 10:10 A.M. EST; one 2½-inch line was added at 10:15 A.M., at which time one booster line also was put in service. Initial control was considered gained at 10:20 EST.

At 11:05 A.M. EST, one 2½-inch line

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One Model ch[illegible]d. Diamond-T Fire Truck, year 1947, fully enclosed (pumper) 500 gallon pump, perfect mechanically, all new tires, two hundred gallon booster tank, two speed axle (standard equipment less hose).

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Canadian Deputy Fire Chief of large city would like post of Fire Chief anywhere in Canada or America. Thirty years of age, married and has one child. Good record, both in fire extinction and fire prevention. Under no pressure in present position and can give references as to ability and character. Honorary Member of the International Technical Committee for the Prevention and Extinction of Fire. Associate Fellowship degree of the Institute of Civil Defense. Graduate of the Institution of Fire Engineers. Associate Member of the Fire Officers' Committee Fire Protection Association. Position of Technical Consultant to large Industrial Firms would also be considered. Write Box 70, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

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AT LAST!
An exposé of today's fire losses—who pays for them and why . . .

DISASTER on your DOORSTEP

By PAUL W. KEARNEY

Foreword by Percy Bugbee, National Fire Protection Association

Here is the startling record of today's public fire losses—which cost the American taxpayer $750,000,000 a year. Containing graphic accounts of hundreds of specific incidents, this book "contributes some fine documentation for those who want to do something about it. He gives chapter and verse on inadequate inspection, political corruption in fire departments, faulty building, obsolete equipment and public apathy. . . ."—BURTON CRANE, *N. Y. Times.*

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Special catalog illustrates 900 cups, trophies, medals, etc. suitable for presentation as prizes and awards in all kinds of contests, or for testimonial purposes. Sent free — ask for Catalog FE2.

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was added and all lines were continued in constant service until complete extinguishment was accomplished. This was at 11:52 A.M., EST, although clean-up and standby lines were continued until 12:30 P.M., EST.

All main hose lines were shut down at 12:30 P.M., although overhaul operations and some small spot applications as a precautionary measure were continued until 2:20 P.M., EST.

Approximately 70,000 gallons of water were discharged during this extinguishment period, consuming 647 gallons of wetting agent, a proportioning of slightly less than 1 per cent wet water solution for the entire application. Application was made through three 2½-inch lines and one booster hose, all using straight streams.

Investigations Begun at Once

As soon as the Commissioners learned of the ownership of the materials stored, they notified the local police, the Fire Marshal's Office and the FBI, all of which instituted investigations into the probable cause of the disaster.

At a late date no formal statement either as to the cause or the property destruction has been released. It is believed, however, that the initial collapse resulting from vibration set up by vehicular and rail traffic might have caused a shift in a critical load of the 32,000 250-lb. bales of raw rubber, setting up undue stresses in the warehouse structure. Fire officers were puzzled, however, by the fact that flames raged within five minutes of the cave-in, although crude rubber and tannin have high ignition points.

The heavy concentration of fire apparatus, and operation of the vast number of hose streams (reported at 70 during the peak period), resulted in a heavy demand upon the city's water supply. Although, according to Water Commissioner Samuel S. Baxter, there was ample water to feed the pumpers, whose dozens of hose lines laced 8th, 9th, Jefferson and Oxford streets, due to the "tie-in" of the central city high pressure system with the low pressure supply, the water pressure for entire section for domestic use was seriously lowered.

It is interesting to record that the fire force operating on the major blaze at 9th and Jefferson alone totalled 23 chief officers, 105 company officers and 572 firemen, including many off-shift personnel who responded on the recall. The total duration of service at this fire alone was 27 hours 41 minutes.

Alarms	Time EST	Assignments
1.	2:19 P.M.	Eng. 29, 2, 15, 13. Lad. 7, 3. Res. 1. Batt. 6, 3.
2.	1:20 P.M.	Eng. 26, 31, 27, 6. Lad. 23. Sp. Serv. Sec. Battl. 4. Act. Dept. Ch. 2 (Klein). Chief and Commissioners.
3.	1:25 P.M.	Eng. 20, 34, 25, 17. Lad. 1. Batt. 2.
4.	1:26 P.M.	Eng. 50, 31, 8, 45. Lad. 2. Batt. 8.
5.	1:30 P.M.	Eng. 32, 30, 11. Pipe Line 5 Sp. Called
6.	1:31 P.M.	Eng. 4, 55, 7.
7.	1:36 P.M.	Eng. 61, 42, 44.
SP. CALL		Eng. 48, 9. Pipe Line 4, 1. Rescue 4.

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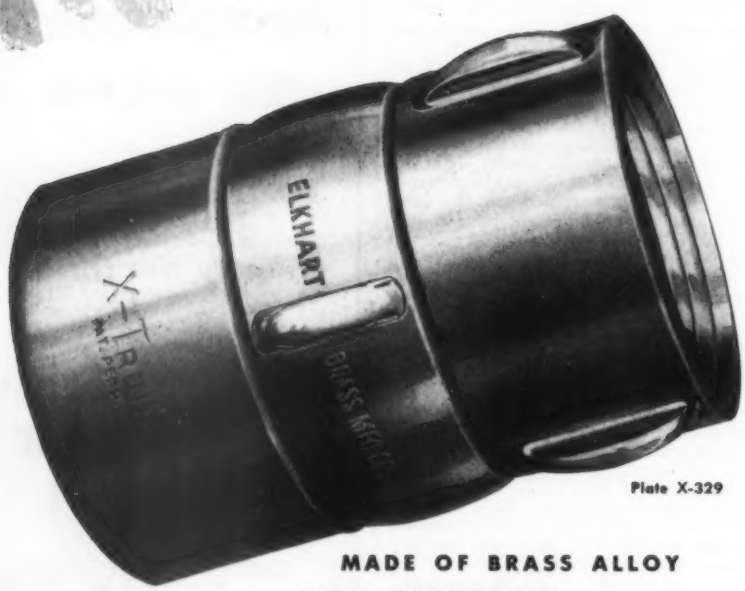

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ELKHART BRASS MFG. CO., INC.

ELKHART, INDIANA

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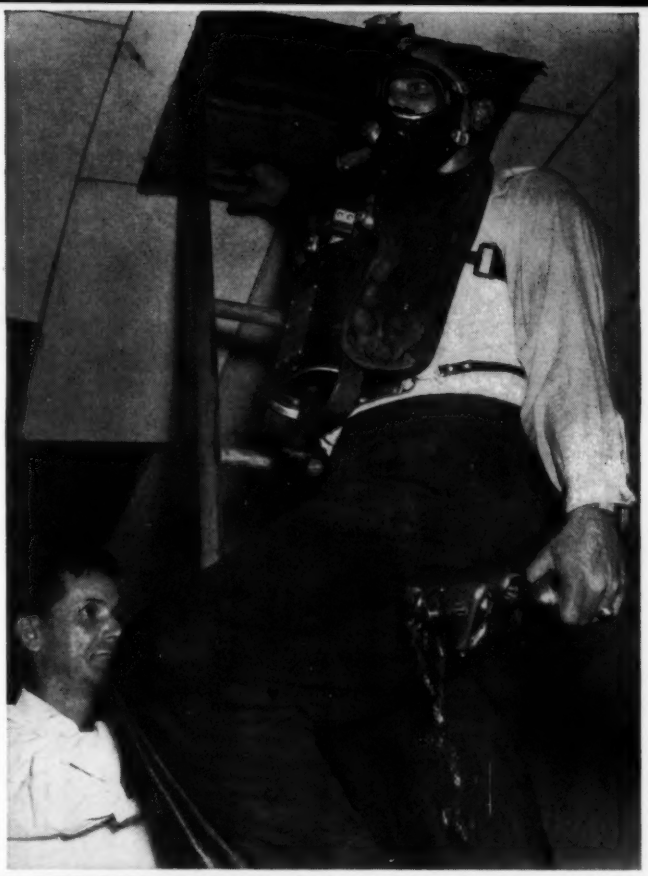
How this M·S·A Man became a "member" of the McMinnville Fire Department

for 5 important minutes!



When James C. Sheehan, representative for the M.S.A. Atlanta Office, was invited to a meeting of the McMinnville, Tennessee, volunteer fire department to demonstrate the advantages of the M.S.A. Chemox, he got more of an opportunity than he bargained for—

1. Jim Sheehan had just started his Chemox demonstration to the volunteer group when a fire alarm rang in.

2. Invited to "come along," Sheehan, with his Chemox still strapped on, hopped aboard with the crew.

3. At the scene, a roadside mart, Sheehan proved to be the only man equipped to enter the smoke-filled building safely.

4. Armed with spotlight and hose line, he climbed through the boiling smoke to the attic and extinguished the fire.

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Chief Davies said, too, that it was a ighty impressive demonstration, and laced an order for two Chemox.

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